The Grill: Xerox CEO Anne Mulcahy talks about wielding power, making tough decisions and bringing the company back to life. PAGE 22

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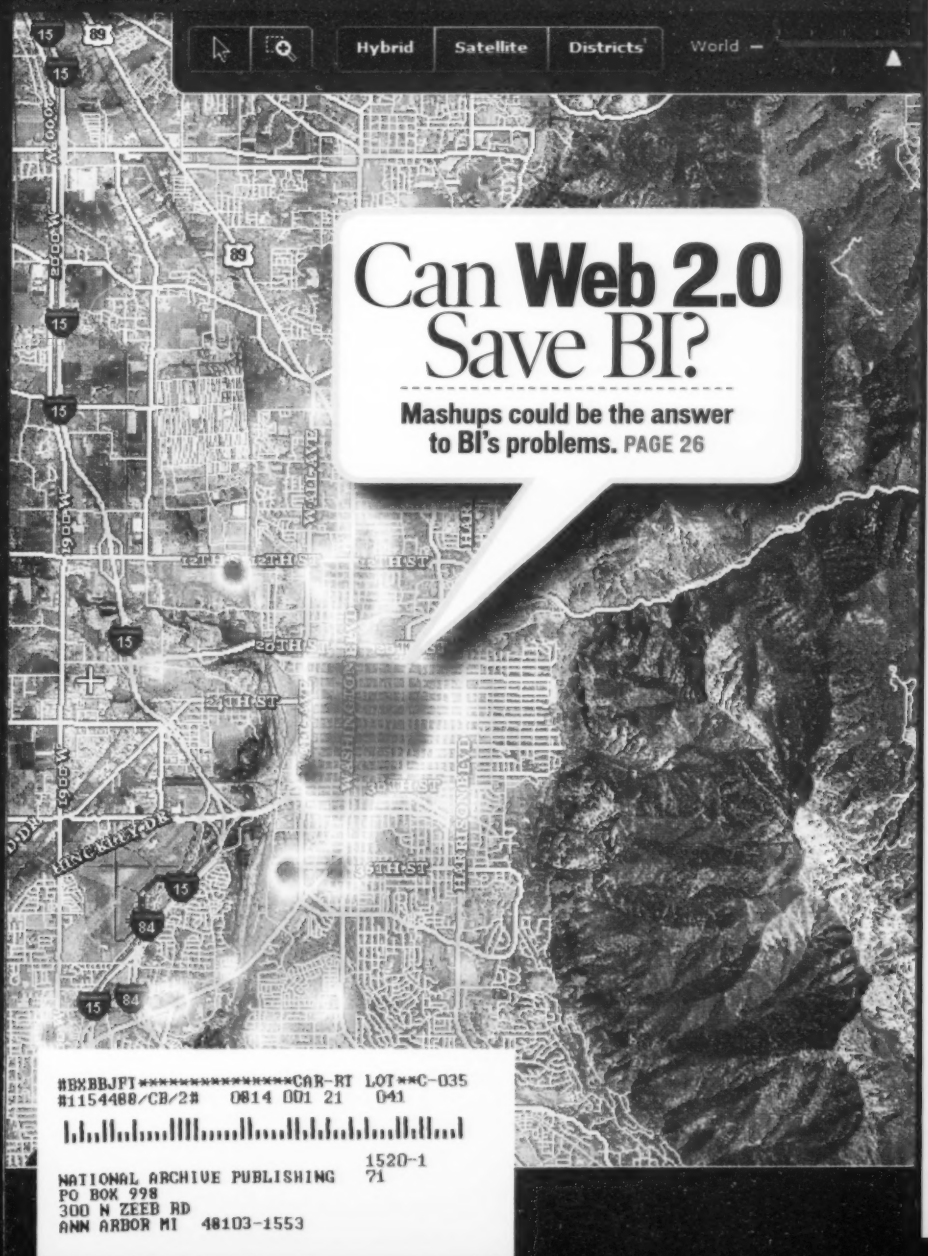

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SEPTEMBER 1, 2008
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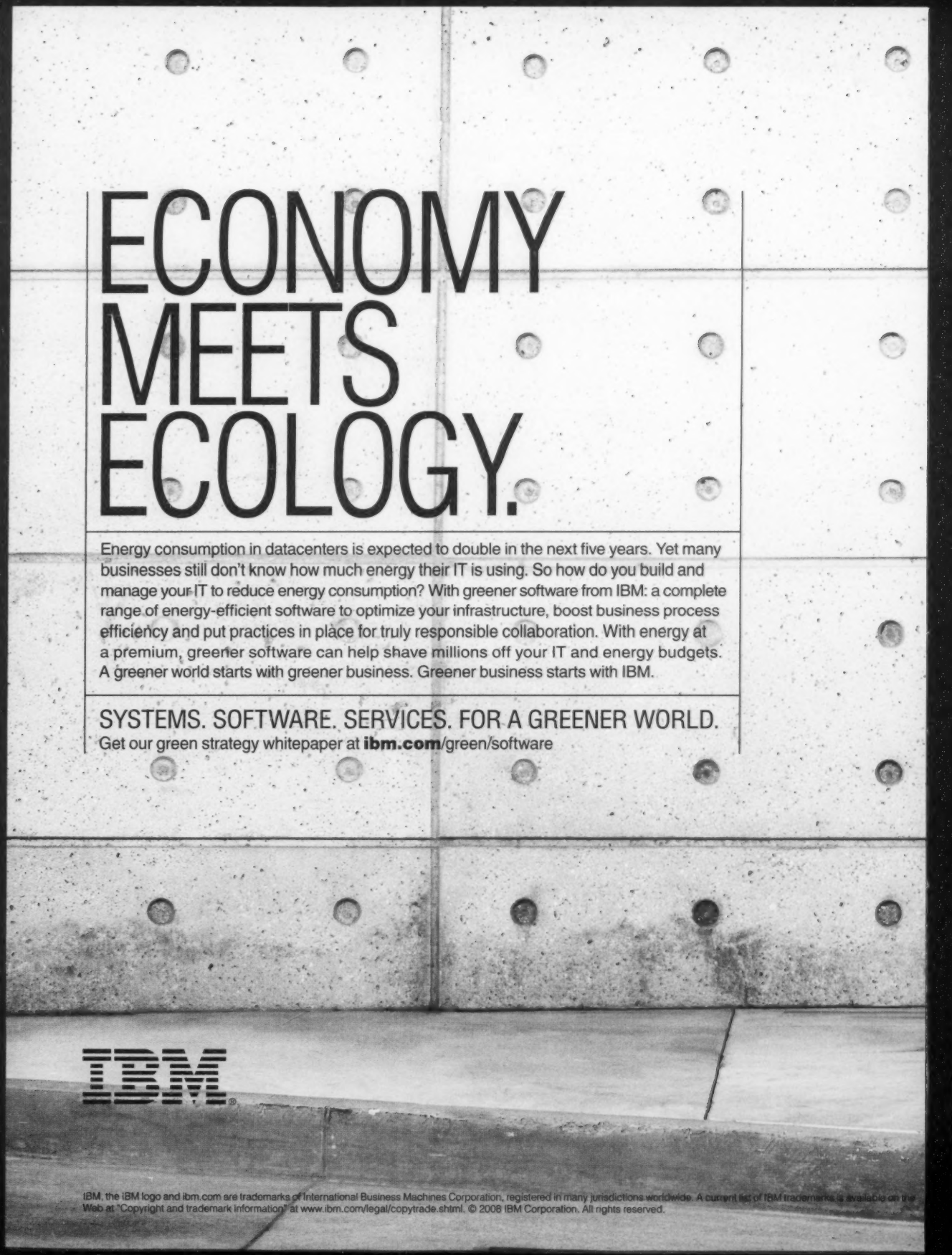
ECONOMY
MEETS
ECOLOGY.
Energy consumption in datacenters is expected to double in the next five years. Yet many businesses still don't know how much energy their IT is using. So how do you build and manage your IT to reduce energy consumption? With greener software from IBM: a complete range of energy-efficient software to optimize your infrastructure, boost business process efficiency and put practices in place for truly responsible collaboration. With energy at a premium, greener software can help shave millions off your IT and energy budgets. A greener world starts with greener business. Greener business starts with IBM.
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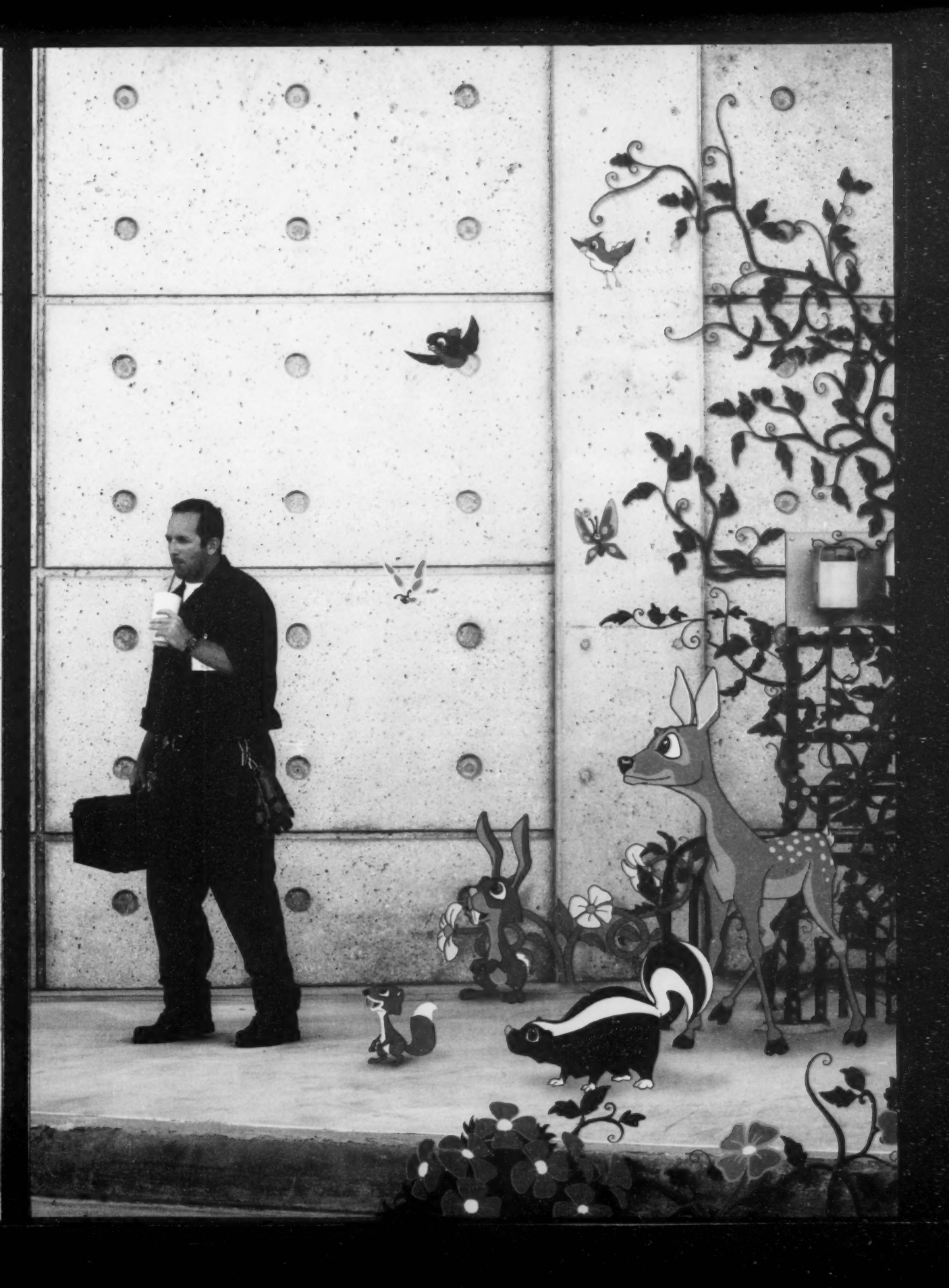

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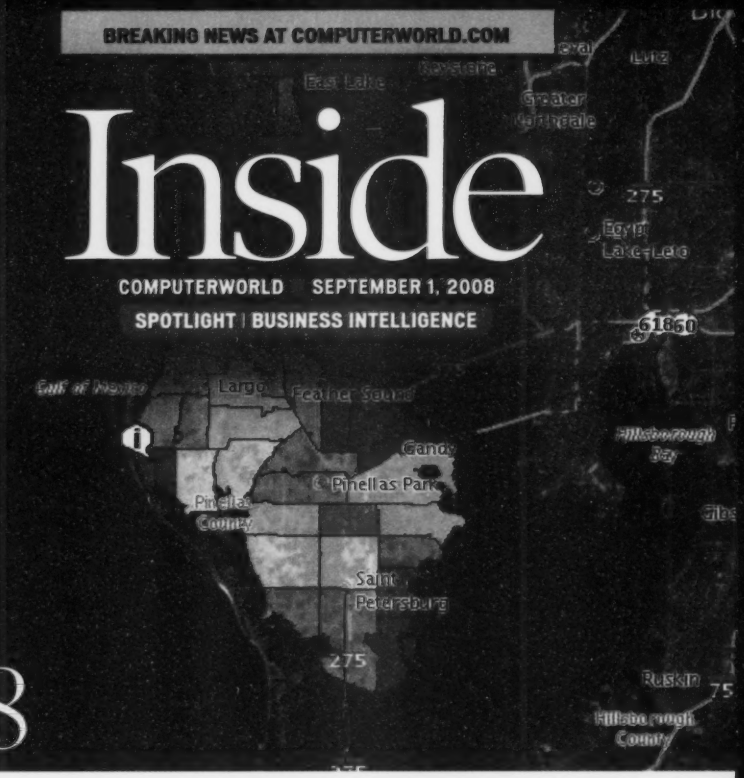

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NEWS DIGEST

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12 A **computer bug** invades **outer space** aboard a laptop on the International Space Station. | **Netflix** fingers **faulty hardware** for delays in shipping DVDs to customers.

13 The **New York Mets** step up to the plate on **unified communications** at their new ballpark.

NEWS ANALYSIS

14 Wanted: Skilled Workers – But Only Those With the Right Skills Need Apply. Despite the economic malaise in the U.S., IT hiring is showing signs of life. In fact, some companies are having trouble filling job openings.

20 Best Western Forced to Play Defense on Breach Disclosure. A dispute between Best Western and a Scottish newspaper over the scope of a system intrusion at the hotel chain shows why companies need to be proactive about disclosing data breaches.

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48 Frankly Speaking: Frank Hayes finds a number of contradictions as he sums up the state of IT on Labor Day 2008.

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SPECIAL REPORT

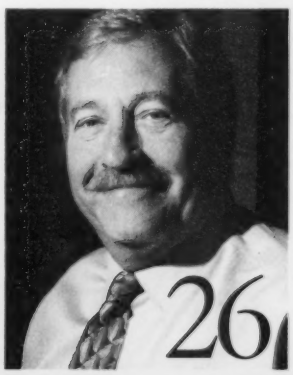
26 Can Web 2.0 Save BI?

Welcome to Business Intelligence 2.0, a world in which more everyday users are tapping into innovative technologies and Web-based BI capabilities. At the Ogden, Utah, police department, for example, officers perform geographic profiling of crimes in seconds. "You have practitioners asking the what-if questions, which has changed the way we police," says chief **Jon Greiner** (below). Also, BI mashups don't force IT to give up control, but they do put the focus on data quality and data integration.

32 Better BI

These five organizations are using Web 2.0 technologies to dig deeper into their data, helping them calculate risk, map customer behavior and even fight disease.

32 Boyne Resorts. Marketing staffers at this golf and ski resort operator use BI and mapping to learn more about customer behavior, such as the number of visits made to a particular resort or how many nights visitors stayed.



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34 Dana-Farber Cancer Institute. Using a BI mashup, researchers at this research and treatment facility can view genetic information from multiple databases with a specially designed Web portal.

36 Erlanger Police Department. By mashing together search, BI and mapping, officers at this Kentucky police department can view real-time crime data from multiple agencies as well as crime records and incident reports stretching back five years.

38 Guy Carpenter & Co. Location intelligence paired with risk management data lets reinsurance company Guy Carpenter & Co. prepare itself and its clients for potentially devastating losses, often caused by weather.

40 Harris Corp. This communications equipment maker uses a business intelligence-Web 2.0 mashup that allows its engineers and others to search for parts information in a Google-like format.

42 Opinion

Columnist Mark Hall frets that mashups will make networks even less secure. The key is to get smashed, not mashed.

ONLINE View a "bashup" of *Computerworld*'s Best Places to Work in IT data, paired with results from our annual salary survey at computerworld.com/bestplaces.

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This Week Online

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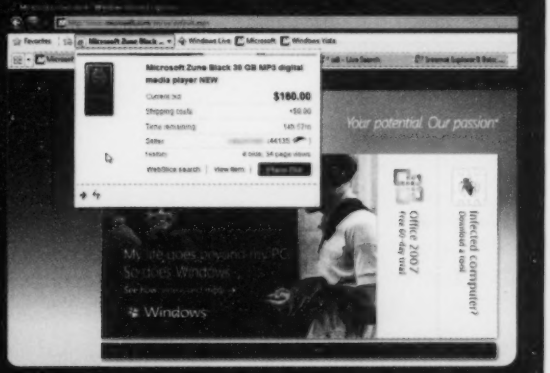
REVIEW: Internet Explorer 8 Beta 2 Offers Some Nifty New Features

Microsoft's latest beta of IE8 includes better tab management, new services such as WebSlices and Accelerators, and an interesting feature that some people call "porn mode."



Solid-State Disk: A Lackluster Option for Laptops and PCs

Using SSDs in laptops and PCs currently means getting much less capacity at a much higher price.

After the Core 2 Duo Chip, What's Next for Apple Laptops?

OPINION: With Apple expected to unleash new MacBook laptops in the next month or so, Dan Turner wonders if we're witnessing the start of an era in which faster processors will cause laptops to undermine desktop sales.

Intel CTO Sees a Future With Shape-Shifting Robots, Wireless Power

The chip maker's chief technology officer says that human and machine intelligence will be similar by 2050.

Blog Spotlight

Novell and Microsoft: Good Together, Except For One Thing . . .

It really makes sense for these companies to be working together, says Steven J. Vaughan-Nichols. But please stop with the FUD about Linux users needing legal protection.

More Evidence That Google's Mojo Is Gone

Google has stopped providing free dinners to staffers, and that could be more than a cosmetic change. Preston Gralla says it may represent a turning point in the way the Internet heavyweight treats its employees – and in its ability to attract new ones.

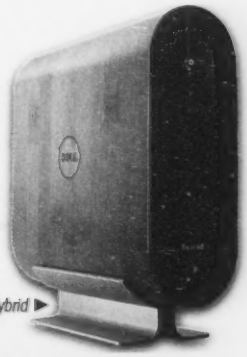
Call Out a Phisher, Get Attacked by Malware

If you're the target of a phishing exploit, one thing you probably shouldn't do is talk back, says Joe Stewart, director of malware research at SecureWorks. Otherwise, you could be hit with a follow-up attack.

The Latest in PC Haute Couture

PCs for the style-conscious were strutted down the runway at the fashion industry's Project Las Vegas trade show.

◀ Gateway M-6867



Dell Studio Hybrid ▶

SHARK BAIT

Busy as Hell

Leave it to a pair of IT professionals to overanalyze things. What should have been a simple salutation in an online chat became a detailed dissertation that stopped just short of thermodynamics.

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MEANER.
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Twentieth-century datacenters simply weren't built to handle the demands of twenty-first century business. With these hardwired, high-density computing environments, we've inherited inefficiency, complexity and ever-increasing power and cooling costs. Businesses need a new approach. IBM's New Enterprise Data Center is a vision for the highly efficient, greener-by-design, business-driven IT model you'll need for tomorrow. This isn't some far-off theory. IBM is already working with over 2,000 clients to help make this vision a reality. A greener world starts with greener business. Greener business starts with IBM.
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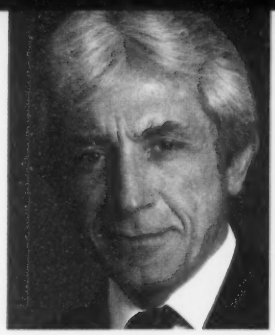
■ EDITOR'S NOTE

Don Tennant

Gig 'em, Aggies!



AS I WRITE THIS, a group of Texas A&M University students is gathered in College Station to make plans for the coming year. Like many college students across the nation, they're talking about drinking and partying. Unlike the vast majority, these Texas Aggies are formulating plans to keep their drinking and partying classmates, and the communities they live in, safe.

The students are members of CARPOOL, a nonprofit campus organization that provides free rides so students can avoid the deadly mix of drinking and driving. Joining them are several alumni, including Jeff Schiefelbein, class of 2000, who founded the organization following a 1997 DWI arrest. That life-altering experience brought Schiefelbein in contact with a woman who showed him a photo of her daughter, who had been killed by a drunken driver. CARPOOL was his response.

Also attending the gathering is John-Michael Oswalt, class of 2007, who's now working at Accenture in New York and is undergoing training to be an SAP project consultant. Oswalt is the technology guru behind CARPOOL, and I spoke with him shortly before the gathering.

He said he got involved in CARPOOL as a freshman, attracted by the camaraderie and spirit of service that were already its hallmarks. He joined as a driver, but it soon became clear that there was a way to make a much more lasting contribution: by using technology to make it far easier to ensure that rides were available when and where they were needed.

As a mechanical engineering major, Oswalt had no real programming experience, so he took a learn-by-doing approach that began with tackling ASP to build more functionality into the organization's registration Web site. He cut his database teeth with three MySQL databases on the back end: one for sign-up and membership information, one for scheduling and ride data, and one for nightly reporting of assignment and debriefing details. Oswalt built an AJAX interface for the reporting database that dramatically eased the debriefing effort and improved the quality of data used for basic analysis. By tracking how many rides are provided in College Station and the neighboring town of Bryan, for example, CARPOOL can provide the documentation needed to request grants from the two jurisdictions.

■ Oswalt, the technology guru behind CARPOOL, was attracted by the group's camaraderie and spirit of service.

Oswalt also used ASP to develop the "phone room" application used by the dispatchers. Because of concerns about the chaos that would ensue if Internet connectivity was lost on a busy night, he installed the app on a LAN using Microsoft's Internet Information Services.

"I feel like I learned a lot, and that's partially what got me my job at Accenture," Oswalt said, stressing that he encourages students to get involved in activities like CARPOOL. "It really opened the door to me to find out how many opportunities there are to be creative with technology and to learn new things."

The Aggies are eager to work with other universities to take CARPOOL nationwide. To that end, Oswalt recently built a new version of the phone room app in PHP, because he'd heard that his counterparts at several other interested schools are more familiar with PHP than with ASP. He licensed the app under a Creative Commons license, which allows other schools to copy, share and alter the application as long as attribution is maintained.

Oswalt mentioned that he's sent the app to several other schools, including James Madison University in Harrisonburg, Va. His mention of that particular school hit close to home. That's the school I attended during my first year out of high school, back when it was called Madison College.

I don't drink, but I certainly don't judge anybody who does. I'm too thankful that I never hurt myself or anyone else during my drinking days as one of the dumber 18-year-olds at Madison. And I'm equally thankful to the Texas A&M students and alumni behind CARPOOL who have made College Station, Harrisonburg and a growing number of other communities safer. As they say in College Station: Gig 'em, Aggies! ■

Don Tennant *is editorial director of* Computerworld *and* InfoWorld. *Contact him at don_tennant@computerworld.com, and visit his blog at* http://blogs.computerworld.com/tennant.

■ ONLINE CHATTER

RESPONSE TO:

The Grill: Avi Rubin

Aug. 18, 2008

The good news is there is a growing awareness among ordinary citizens, who understand that their votes are at risk with today's election systems. The bad news is that in Florida, we're no better off than we were in 2000. Why? Because following each successive election failure, we rush out to buy new voting machines. But we never address our real problems. Independent audits, and improved technology and processes aside, even perfect systems fail. And until we change our election laws to recognize failed elections and send them immediately back to the voters, we're in a perpetual 2000 do-over, where the court systems and the party in power control the win.

■ **Submitted by:** *Lani Brown*

RESPONSES TO:

Gag Order Against MIT Students Gets Another Day in Court

Aug. 18, 2008

Freedom of speech is primarily for keeping government in check. But it does not grant the right to say anything, anytime. You can't yell "Fire!" in a crowded theater and call it freedom of speech; you'll go to jail. Try cussing out a police officer sometime and call it freedom of speech. I'll come visit you in jail.

The MiFare Classic vuln has existed for well over a year. The vendor has been trying like mad to keep it under cover because it has such a huge installed customer base. Fixing all those chips is going to be expensive and might even run the company into the ground. That's why they don't want to publish it.

The fix might be easy, but implementing it is expensive, especially if you've got chips embedded in ID cards, key fobs, or programmed into mass transit fare purchase systems.

■ **Submitted by:** *Robert M*

The MIT students' tongue-in-cheek comment, "What this talk is not: evidence in court (hopefully)," may bite them. It may bite the rest of us also. If sarcasm is taken as literal speech, many human activities will become deadly dull.

■ **Submitted by:** *Mark Walker*

RESPONSE TO:

IT Schools to Watch

Aug. 18, 2008

I was surprised to see innovative programs left off the top 10 list. Northwestern and Princeton, for example, offer programs that provide innovative thought leadership and house quite well-noted successes — both business- and technology-related.

■ **Submitted by:** *KL Koenig*

RESPONSES TO:

A Third of New PCs Being Downgraded to XP, Says Researcher

Aug. 18, 2008

Regardless of the accuracy of the Devil Mountain Software estimate, if end users were knowledgeable enough to perform the downgrade process, and if machines sold with Windows Vista Home were eligible for downgrade, the downgrade percentage would likely approach 80%.

■ **Submitted by:** *Rick*

I have found Vista to be rock solid and fast. I will NEVER go back to XP. Vista's incredible search feature alone justifies the upgrade; there are no icons on my desktop, simply because a search will quickly produce anything, whether it's a folder, file, or some obscure control panel object. And if I can't recall the specific name, Vista seems to know what it is I'm looking for. Simply incredible.

■ **Submitted by:** *oceanstate65*

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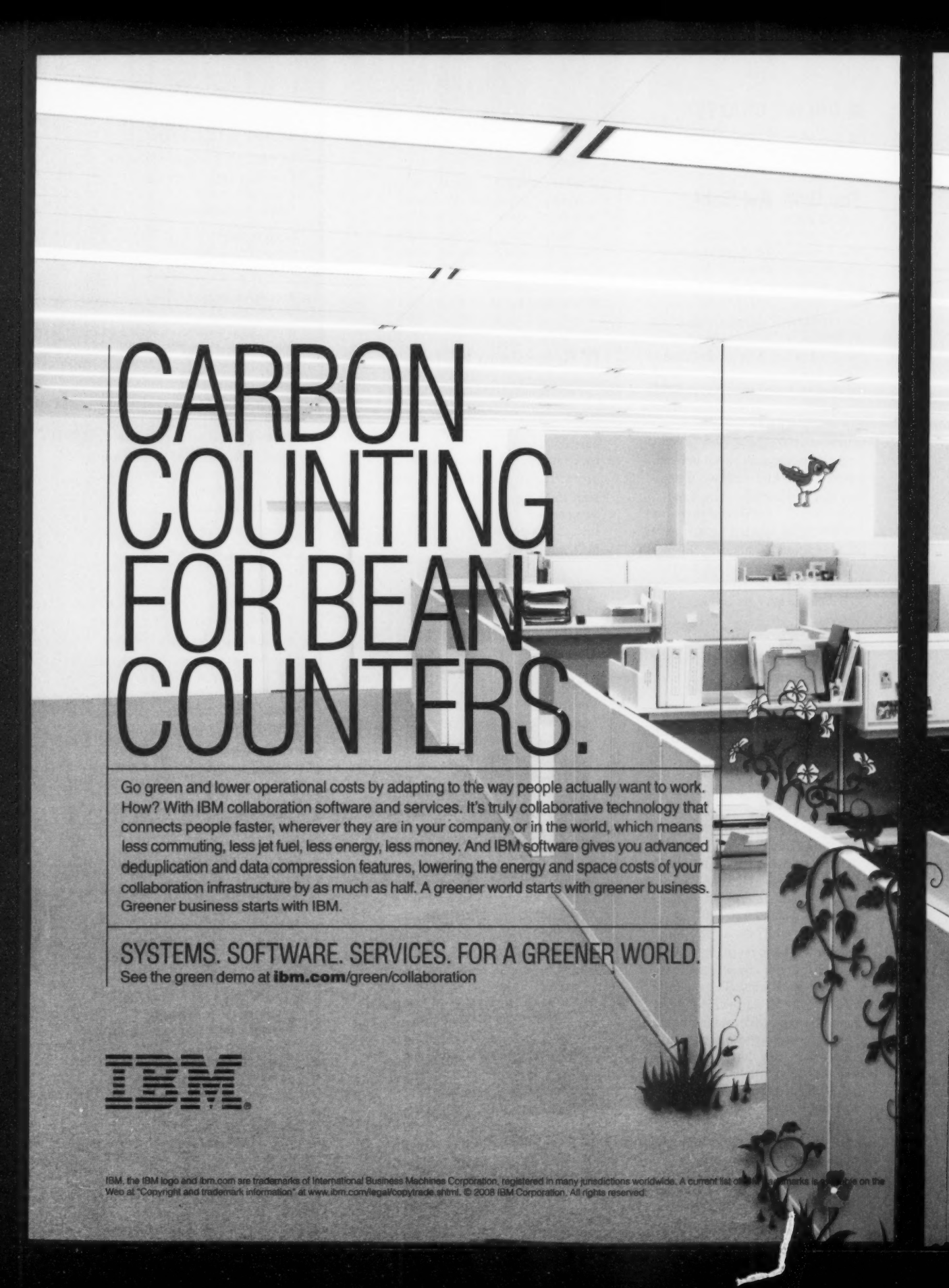
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News Digest

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THE WEEK AHEAD

TUESDAY: Hewlett-Packard plans to announce a variety of technologies supporting virtualization, including a blade server designed specifically to host virtual machines.

WEDNESDAY: The Office 2.0 Conference 2008 begins in San Francisco, with an agenda that includes sessions on enterprise uses of so-called Office 2.0 technologies.

WEDNESDAY: The Virtual Worlds Expo opens in Los Angeles; it focuses on the use of virtual worlds for business purposes.

MOBILE & WIRELESS

AT&T Adds Overseas Data Plans for iPhone Users

AT&T INC. last week began offering two new international data plans for iPhones in an effort to soften the blow on users who can rack up hundreds of dollars in overseas roaming charges per month.

But the new data plans are expensive in their own right. One costs $119.99 per month for 100MB of data use, while the other has a monthly fee of $199 for up to 200MB of data. That's in addition to the price of AT&T's plans for iPhone use within the U.S., although the carrier said that the international plans don't require a long-term commitment and can be activated for periods as short as one month.

Gartner Inc. analyst Ken Dulaney predicted that the international plans will appeal to a "rarified set of users" who are willing to pay a very steep price. But, he added, "it does save a lot of money for roamers who often come back with [even costlier] bills when they don't have such a plan."

On the other hand, an IT manager at a U.S.-based global manufacturing company said that AT&T's new plans aren't a serious offering for large businesses with many workers who travel abroad.

The IT manager, who asked not to be identified, said his company has banned corporate purchases of Apple Inc.'s new iPhone 3G because of the "psycho-expensive" international data-roaming charges incurred by employees using first-generation iPhones.

For example, one executive spent three days in Canada and was assessed an $800 roaming fee, the IT manager said. He added that another exec spent two weeks in Italy and was charged $5,000 for roaming.

One issue is that the iPhone "uses 10 times the data as any other device," said the IT manager, whose company has 4,000 BlackBerry devices that are used primarily for e-mail.

Overseas data-roaming costs have been a subject of active discussion on Apple's iPhone online forum. And as part of last week's announcement, AT&T noted that 2MB of data use — roughly the size of a two-minute song download — would cost nearly $40 at a pay-per-use rate of just under 2 cents per kilobyte from a carrier abroad.

The two international data plans cover usage in 67 countries, AT&T said. ■

— Matt Hamblen

OPERATING SYSTEMS

Microsoft Ups Notices To XP Pirates

Microsoft Corp. said it is updating one of its antipiracy tools to take a harder line against users fingered for running bogus copies of Windows XP Professional.

Alex Kochis, senior product manager for Microsoft's Windows Genuine Advantage antipiracy program, said in a blog post that the changes to the WGA Notifications software bring XP Pro in line with Windows Vista Service Pack 1.

The new version of WGA Notifications will be able to install future updates without informing users in advance.

For example, suspected counterfeit copies of XP Pro will now display a black desktop at start-up and revert to black after an hour if the background is changed. In addition, a permanent notice urging users to buy legitimate copies will appear in the bottom right-hand corner of the screen.

Previously, WGA was limited in XP to showing a nag message at log-on and periodic secondary notices that popped up in small balloons.

– GREGG KEIZER

office forwards

surging stocks

storm coming

28 "urgent" e-mails

presentation.asap

ninth-inning upset

last-minute e-cards

eleventh-hour assignment

celebrity hospitalization

skydiving poodle

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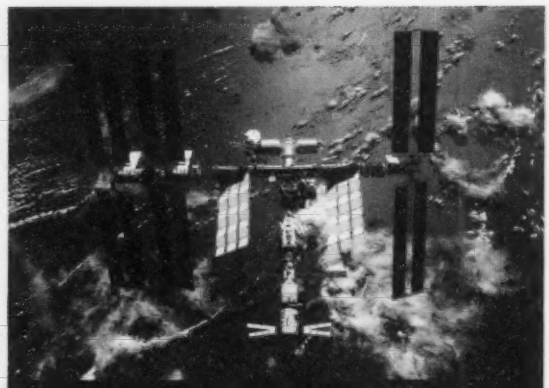


NASA says a bug found on a space station laptop poses no threat.

NASA

SECURITY

Malware Infects Space Station Laptop

MALWARE has once again managed to get from Earth onto the International Space Station, a NASA spokesman confirmed last week.

The attack code infected at least one laptop used on the station, an international operation led by the U.S. and Russian space agencies.

The NASA spokesman declined to identify the malware, saying only that antivirus software had detected it on July 25. The SpaceRef.com news site last week identified the bug as W32.Gammima.AG.

The spokesman said the worm posed no threat to the station or its crew. "It was never a threat to any command-and-control or operations computer," he said.

The spokesman refused to disclose how the malware was installed on the computer, though an entry into the station's daily logs, posted on NASA's Web site, suggests that digital camera storage cards may be responsible.

The spokesman did acknowledge that "there have been other incidents" of malware discovered on space station computers. "I don't know when the first one was, but the station will have been in orbit for 10 years [come] November," he said.

The malware discovery was first disclosed in the daily log by space station Commander Sergey Volkov on Aug. 11. Volkov reported finding the malware after running "digital photo flash cards from stowage through a virus check with the Norton AntiVirus application."

A week later, on Aug. 21, Volkov's daily report noted the discovery of malware during a scan of the hard drives and a photo disk on another laptop computer.

Graham Cluley, a consultant at Sophos PLC, noted that "if there is any good news at all, it's that the [W32.Gammima.AG] malware was designed to steal usernames and passwords from computer game players," and orbiting astronauts aren't likely to be spending a lot of time playing games.

— Gregg Keizer

Short Takes

A network failure at a Federal Aviation Administration facility in Georgia caused some 650 flight delays at U.S. airports last Tuesday. The FAA said the glitch was likely caused by a software problem.

The European Court of Human Rights agreed to allow accused hacker Gary McKinnon to be extradited to the U.S. McKinnon, who is accused of breaking into NASA and U.S. military computers in 2001, appealed his extradition. He contended that, if convicted, the conditions he faces would breach European prohibitions on inhumane treatment.

Microsoft Corp. released a second beta of Internet Explorer 8, meeting a promise made by Chairman Bill Gates that it would be ready by August.

Cisco Systems Inc. has agreed to buy PostPath Inc., a maker of e-mail and calendaring software, for $215 million. Once the deal closes this fall, Cisco plans to add the PostPath tools to its WebEx Connect line.

INTERNET

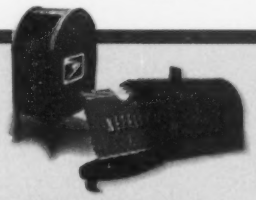
Hardware Flaw Caused Netflix Shipping Woes

Netflix Inc. last week blamed a faulty hardware component for seriously disrupting its ability to mail out DVDs for several days earlier this month.

After initially suspecting a corrupted database, Netflix engineers eventually discovered that "a key faulty hardware component" was the culprit, according to a post in the Netflix Community Blog.

The company did not disclose the specific hardware problem, but Mike Osier, Netflix's head of IT operations, noted in the blog post that it was identified with "great forensic help" from the suppliers of the technology.

"It definitively caused the problem, yet reported no detectable errors," Osier said. He added that Netflix has moved to fortify the system by adding undisclosed equipment and is working closely with its vendors.



The Netflix distribution operations were crippled between Aug. 11 and 15, wreaking havoc with the company's core business – mailing DVDs to the millions of subscribers to its rental services.

A company spokesman declined to comment further on the issue.

Netflix officials have not yet disclosed what type of hardware went haywire, nor what company makes it. Netflix also hasn't explained whether the problem arose because of a Netflix error during installation of new or upgraded technology, or whether the hardware broke because of an inherent flaw or vulnerability.

– JUAN CARLOS PEREZ, IDG NEWS SERVICE

NETWORKING

New Mets Ballpark Offers Unified Communications

THE NEW YORK METS are installing a new networking and unified communications system at Citi Field, a stadium that is slated to open for baseball next spring.

Joe Milone, the team's senior director of information systems and technology, said the project will significantly improve communications among Mets employees and with fans of the team.

Milone said the new stadium gave the team a unique opportunity to build the multimillion-dollar system, using networking equipment and unified communications applications from Nortel Networks Ltd.

At Citi Field, the nearly 200 full-time Mets employees will, among other things, be able to easily tie teleconference bridges into the network and receive voice mails and faxes in their e-mail in-boxes.

In addition, about half of the 70 call center agents working in a new administration building connected to Citi Field will use phones running over IP on the network, Milone said.

Nortel's design allows traditional circuit-switched calling alongside IP communications, so Milone decided to keep the other 35 call center agents on traditional gear as a backup in case of IP network problems.

"Our call center is where we sell tickets, so it's our bread and butter," he noted.

The first big test of the system began last Friday with the move of the team's data center from the Mets current home, Shea Stadium, to the new 42,000-seat facility built in Shea's outfield parking lot.

The system will also provide Citi Field with up to 250 Wi-Fi access points that can support a range of functions, including wireless ticket-scanning and submitting of food orders from spectator seats.

Nortel's Wi-Fi gear isn't yet rated for the 802.11n draft standard, but it can be easily upgraded once the final standard is in place, Milone said.

— Matt Hamblen

BETWEEN THE LINES *By John Klossner*

BENCHMARKS LAST WEEK

Target Corp. agreed to modify its Web site and pay $6 million in damages to settle a class-action lawsuit filed by the National Federation of the Blind. The NFB will test the site's accessibility annually for three years.

Hewlett-Packard Co. completed its $13.9 billion purchase of Electronic Data Systems Corp., a deal that doubles HP's annual IT services revenue to $38 billion.

17 YEARS AGO: Linus Torvalds announced in a Usenet post that he had written the kernel for a new operating system, which he later named Linux.

Global Dispatches

Infosys to Buy U.K. SAP Services Firm

BANGALORE, India – Infosys Technologies Ltd. last week agreed to acquire Axon Group PLC, an Egham, England-based services firm, for £407.1 million ($747 million U.S.).

The deal is expected to close in November.

Infosys CEO Kris Gopalakrishnan told reporters here that the acquisition will significantly expand the Bangalore-based outsourcer's SAP business.

The current Infosys SAP services business has about 2,100 employees servicing 100 clients.

"This will be a large acquisition for Infosys, and in the right market," said Siddharth Pai, an analyst at Technology Partners International Inc.

Infosys has expertise in SAP technology and software development, while Axon has experience deploying SAP technology in a variety of vertical industry markets, Pai added.

John Ribeiro,
IDG News Service

Laptop Holding Personal Data Lost by Bank

EDINBURGH – The Royal Bank of Scotland PLC last week disclosed that a laptop containing personal data on about 1 million customers was sold on eBay Inc.'s online auction site.

The laptop's hard drive contained customer names, addresses, telephone numbers, bank and credit card account numbers, and signatures.

The bank said it believed that an ex-employee is responsible for the £35 ($70 U.S.) sale of the computer.

The U.K. Information Commissioner's Office is investigating the incident.

Carrie-Ann Skinner,
PC Advisor (U.K.)

BRIEFLY NOTED

Personal data on about 84,000 prisoners in England and Wales was contained on a memory stick lost in transit by a contractor hired by the U.K. Home Office. London-based PA Consulting Group Ltd. transferred the unencrypted data onto a memory stick that was subsequently lost. PA Consulting has not commented on the data loss.

Mike Simons,
Computerworld U.K.

Wanted: Skilled Workers

– BUT ONLY THOSE WITH THE RIGHT SKILLS NEED APPLY

As the U.S. economy has tightened, so have IT job prospects. But there are still some hiring bright spots. **By Todd R. Weiss**

DESPITE HIGH energy prices, rising inflation, falling retail sales, a rough housing market and a host of other troubling economic indicators, IT hiring is still showing some signs of life.

You just need to have the right skills — or apply to the right kind of company. And for some of those would-be employers, finding people to fill the jobs they have available isn't proving to be easy.

For example, there are plenty of open jobs for software developers with experience building wireless or embedded applications, according to Jim Lanzalotto, vice president of strategy and marketing at Yoh Services LLC, a Philadelphia-based staffing agency and outsourcing vendor. "It's a dead-on market for those guys, with unemployment rates of less than 2%," Lanzalotto said.

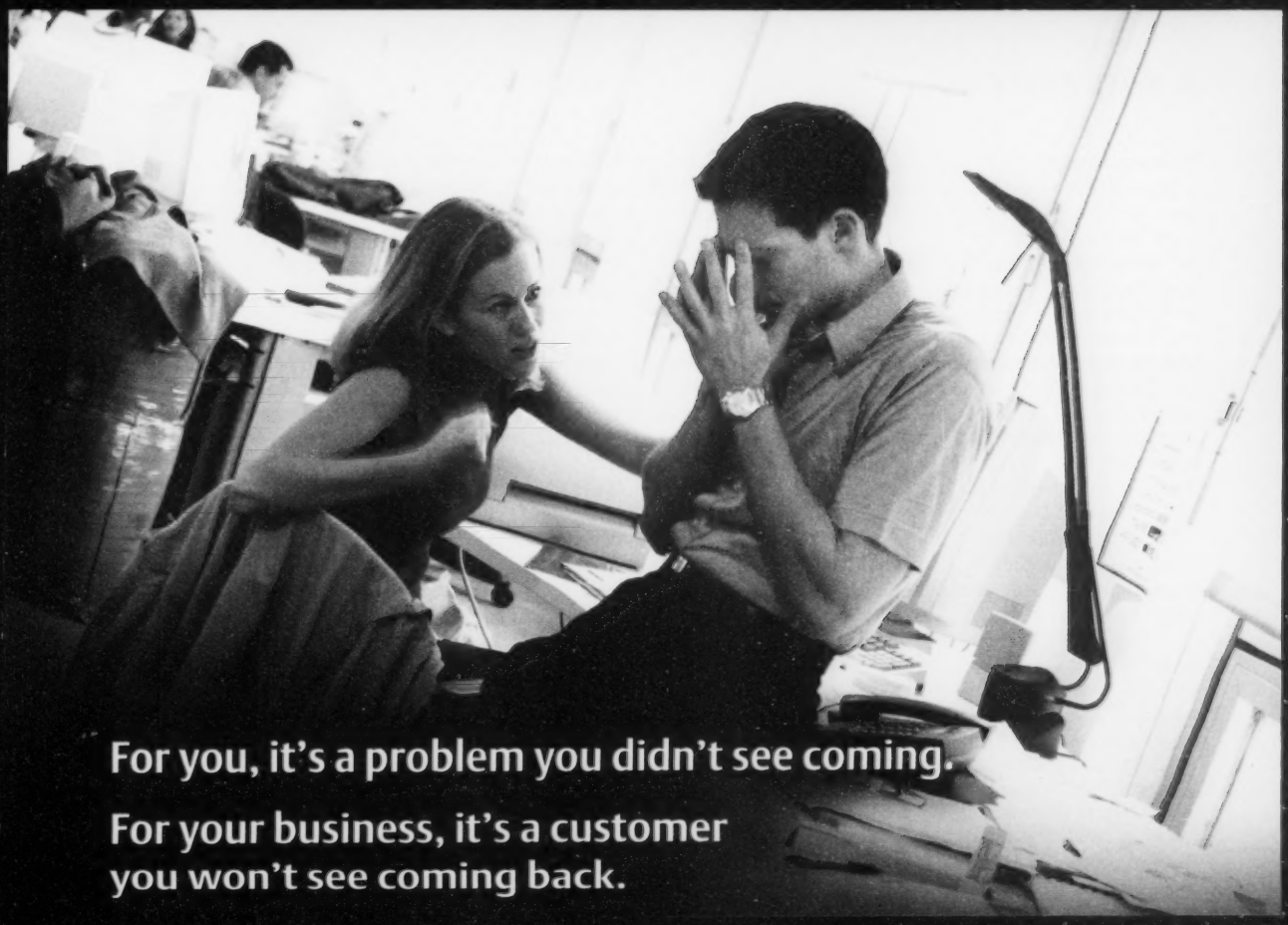
Also in demand, he said, are IT workers and consultants who have SAP know-how or are familiar with rival ERP applications, such as Oracle's PeopleSoft human resources software. SAP AG itself has estimated that about 30,000 more technical specialists are needed worldwide to fill a skills gap for its apps, Lanzalotto noted.

On the other hand, he said IT projects that don't "touch the customers" may be canceled or deferred because of tight budgets. As a result, companies that are in hiring mode now are typically trying to use IT to help boost their revenues, not to make internal improvements, Lanzalotto said.

Amazon.com Inc. is a case in point. Amazon was one of several companies that sent recruiters to the O'Reilly Open Source Convention in July, in hopes of finding the right candidates for IT jobs that it has available.

Brian Krueger, Amazon's vice president of global talent acquisition, said in a follow-up interview that the online retailer and Web services company is looking to hire a variety of new IT workers "to fuel our growth."

Continued on page 16



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Continued from page 14

That includes software developers and people with experience in designing enterprise-class systems, as well as development and technical program managers, network engineers and tech support workers. Specific skills that are being sought include Java and C++ expertise from a programming standpoint, plus experience working with Linux, Windows, Unix and Mac OS X.

But Krueger indicated that attracting candidates for all those positions hasn't been easy, partly because of Amazon's retail-oriented image. He said that at the O'Reilly conference, many attendees asked the company's recruiters what they were even doing there.

"A lot of times, people put us only in the retail category, and that is not correct," Krueger said, pointing to newer offerings such as Amazon's cloud computing and online storage services. "They don't get that we're a technology employer."

Greg Whalin, chief technology officer at Meetup Inc., which operates a Web site for people who want to organize groups around shared interests in their local communities, said that as far as he's concerned, the economy isn't having any affect on IT hiring. "From what I hear on the street, most companies in our sector are aggressively hiring," he said. "It's difficult to find candidates."

Meetup, which currently employs about 50 people, has five open positions and is seeking another 10 to 15 workers to fill job openings that it expects to post in the near future. The New York-based company is looking to add Java developers and front-end Web designers, as well as project managers, systems administrators and quality assurance engineers. "We're kind of across the board," Whalin said. "Whatever you need to build and run Web sites, we're hiring for."

White Oak Technologies Inc., a vendor of tools for searching large databases, has been having such a hard time finding qualified workers to fill open positions that it distributed a flyer at the O'Reilly conference offering a $2,500 bounty to people who help it find worthy job candidates. According to the handout, the Silver Spring, Md.-based company is seeking application, Web client and systems developers as well as a Linux and Unix systems administrator for its data center.

> **"From what I hear on the street, most companies in our sector are aggressively hiring. It's difficult to find candidates."**
>
> **GREG WHALIN,** CTO, MEETUP INC.

In July, online job placement firm Jobfox Inc. included six IT job categories on a list of its "top 20 most recession-proof professions." The favored IT disciplines included software design and development, networking and systems administration, software implementation analysis, testing and quality assurance, database administration and senior IT management — especially for executives with mobile and Web 2.0 experience.

"We know our recruiters are dying to get people with those skills," said Jobfox spokesman Barry Lawrence. "Everybody is trying to improve the ways they do business, to streamline in a tough economy."

Nina Buik, president of Connect, an independent Hewlett-Packard user group with about 50,000 members, agreed that the economic downturn is having varying effects on different types of IT workers. For example, Buik sees a big need for workers with skills in virtualization, blade servers, security and storage. "Those are very marketable skills in today's IT market," she said.

'FEEDING FRENZY'

And lots of new IT jobs are being created in the Web 2.0 arena, as more online advertising dollars go to such sites and mainstream companies look to communicate with their customers in new ways, Buik said. She described the rush to hire workers with Web 2.0 skills as "a feeding frenzy."

But such examples are by no means universal. Andrew Bartels, an analyst at Forrester Research Inc., has twice lowered the consulting firm's U.S. IT spending forecast since last October, and he's now working to adjust it for a third time.

Forrester's current prediction calls for 2% to 3% growth in tech spending this year, followed by an increase of up to 10% in 2009. The firm's current IT staffing outlook is virtually flat for this year, with Bartels projecting a 1% increase in the total number of IT jobs and average pay raises of 3% to 4%.

But the first half of 2008 actually appears to have been better than expected from an IT spending standpoint, Bartels said. That may not be a cause for celebration, though. The second half of this year as well as 2009 are "looking pretty bleak," he added, predicting that the economic problems are "finally going to take a toll on tech hiring."

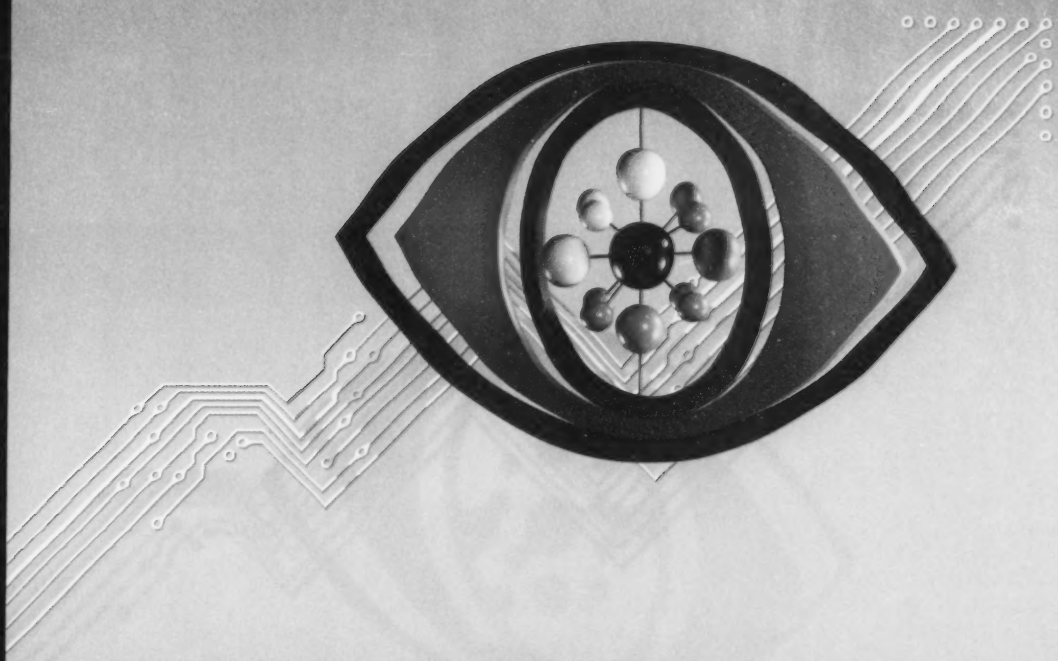
That said, Bartels does see some possible saving graces. First, large companies — especially those that are outside of the banking and automotive industries, and that have large overseas presences — continue to do well financially, he said. "That's probably why we're seeing solid numbers on IT employment right now," said Bartels, noting that small and midsize businesses are "hurting big time" but don't hire as many IT workers as their larger counterparts do to begin with.

And historically, the IT industry has been less susceptible to recessions than other markets have been, according to Bartels. Except in the case of the dot-com bust, IT spending has slowed but not declined, he said. "I think that's what we're seeing this time as well," Bartels added. "Growth is slowing, which is not the worst of all worlds by any means."

John Challenger, president of outplacement consulting firm Challenger, Gray & Christmas Inc., said he's pessimistic about the economy in general.

"I do think there's going to be pressure on IT staffs because of the recession," Challenger said. But he added that staffing levels tend to be less volatile in IT than in other departments because companies rely so heavily on technology to run their business operations.

Corporate executives may cut back on long-term projects, Challenger said, "but they can't just cut out IT." ■



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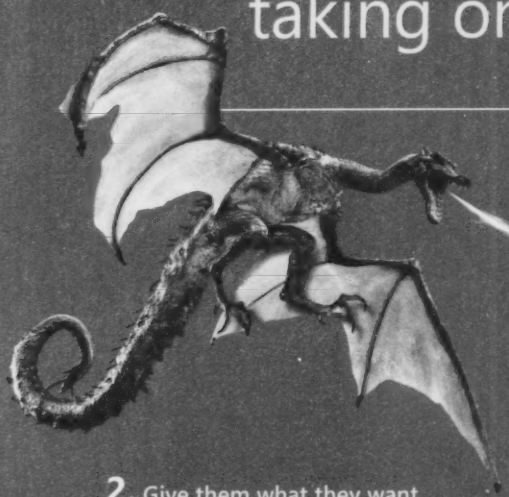
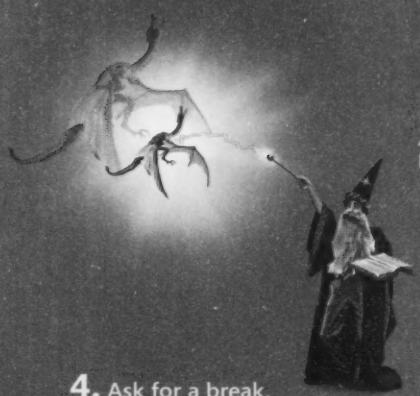


1. Put the fire out.
Knowing what to do if there's a fire is always smart. That the fire spews from the mouth of a ferocious flying serpent should make no difference.

2. Give them what they want.
Dragons desire gold, jewels, and princesses. Have any treasure around? A nice watch, petty cash, your silver sales award? More on princesses later.



3. Use the shrink spell.
Arthurian legend tells of the wizard Merlin, who would have known how to shrink an unruly dragon. Magic wand and spells not included.

4. Ask for a break.
Searing heat, slashing claws, and the beating wings of hell will tire anyone. Say you need a break, then just walk quickly out the back.

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Best Western Forced To Play Defense on Breach Disclosure

The hotel chain disputed a newspaper report that it had been hit by a massive data breach. But could it have done a better job of defusing the issue? By Jaikumar Vijayan

THE HEADLINE in the Glasgow *Sunday Herald* — "Revealed: 8 Million Victims in the World's Biggest Cyber Heist" — was a grabber.

And it certainly got the attention of Best Western International Inc., which found itself scrambling to do damage control after the Scottish newspaper reported that hackers had broken into the hotel chain's online reservation system and stolen 8 million customer records. The theft netted data on everybody who had stayed at Best Western's 1,312 European hotels this year and in 2007, according to the *Sunday Herald*.

After the story appeared on Aug. 24, Phoenix-based Best Western acknowledged that the *Herald* had alerted it to a "possible compromise" of data. But the company disputed the newspaper's claims about the scope of the system intrusion, saying that the story was "grossly unsubstantiated." Best Western said the breach had affected just 13 customers at a single hotel in Berlin — a number that it later reduced to 10.

Nonetheless, the company couldn't stanch the flow of online stories and blog posts about the data breach that followed the publication of the *Herald*'s story. Best Western's experience highlights the public relations problems that can result from breach disclosures and the need for companies to have comprehensive incident-response plans for dealing with such disclosures.

DELAYED DISCLOSURE

In Best Western's case, it could have beaten the newspaper to the punch by breaking the news about the breach itself. The intrusion took place on Aug. 21. According to the *Herald*, it brought the incident to the company's attention the following day, two days before the story was published.

In comments sent via e-mail last week, a Best Western spokeswoman indicated that the company was blindsided by the *Herald*'s claims about the scope of the breach. The reporter didn't ask about the possibility that 8 million records had been stolen, the spokeswoman said. She said that he simply asked for the number of Best Western hotels and rooms in Europe and that he appeared to have used those numbers to extrapolate the 8 million figure.

A company whose systems have been breached should fully understand the scope before going public, said Chris Hoofnagle, senior staff attorney at the Berkeley Center for Law and Technology at the University of California, Berkeley.

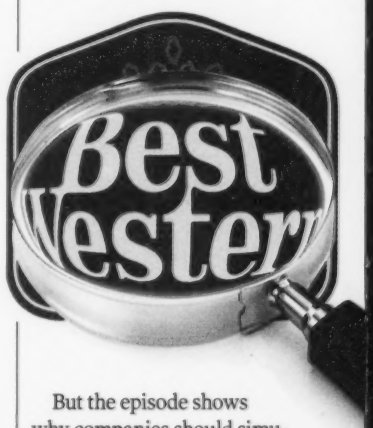
But even if Best Western wasn't fully aware of what it was about to be hit by, it's better for companies to disclose breaches before someone else does it for them, said Kirk Nahra, an attorney who specializes in data privacy and security issues at Wiley Rein LLP in Washington.

Corporate executives are often hesitant to do so, Nahra acknowledged, noting that they have to think about different audiences when disclosing breaches — including "lawyers looking to file lawsuits." But, he said, "the issue is how you control it. You do what you can to make it a one-day story, not a 10-day story."

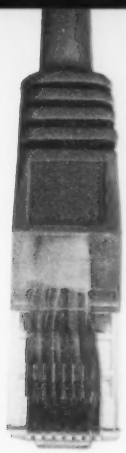
It took Best Western until last Tuesday to detail its version of the breach. In a statement issued that day, the company said the incident involved a compromised user ID that provided access only to data stored at the Berlin hotel. The ID was "immediately terminated," and a computer found to contain a Trojan horse program was removed from use, Best Western said.

In addition to being scooped by the *Herald*, Best Western contradicted itself on how quickly reservations data is deleted from its systems. On Aug. 24, it said the data is purged "promptly upon guest departure." But last Tuesday, the company amended that timing, saying the data is removed within seven days of checkouts.

John Pescatore, an analyst at Gartner Inc., said Best Western officials might have been caught a bit off-guard because the breach was brought to their attention by a reporter.



But the episode shows why companies should simulate various worst-case scenarios when they test their incident-response plans, Pescatore added. Best Western, he said, may have discovered what "many businesses learn the first time they have to implement their disaster recovery plan —'Oops, we should have had a dry run.'" ■



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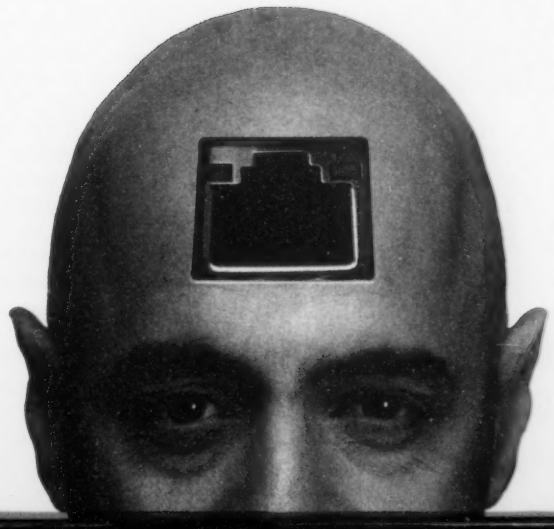

PHOTOS COURTESY OF XEROX CORP.

Dossier

Name: Anne Mulcahy

Title: CEO

Organization: Xerox Corp.

Location: Norwalk, Conn.

Favorite movie of all time: *The Shawshank Redemption*

Role model: "In business, Warren Buffet."

PC or Mac? PC

In high school, she was "Average."

Ask her to do anything but . . . "Suck up."

Favorite nonwork pastime: "Spending time with my kids."

Worst vice: "Impatience."

Favorite non-Xerox technology: BlackBerry

■ THE GRILL

Anne Mulcahy

The **Xerox CEO** talks about **wielding power,** making **tough decisions** and bringing the company **back to life.**

You've noted that business and government need to work together to solve social problems, and that you'd like to be involved in that. In what way? I do believe that the public-private partnership is the model for solving big issues.

The lack of a pipeline for math and science graduates; the implications of restricted access for doctorates in skills that should be welcomed inside this country; what's happened to government funding of research over the last three decades as a percentage of GDP — there's a whole laundry list that needs to be addressed here in this country if we're not going to lose our technological dominance.

Government, education and business all have to play together to start to reverse the trend that we're seeing here. That's an opportunity for former CEOs and other business leaders to make a contribution — use their business skills on behalf of solving some big public-policy challenges.

Where do you stand on the H-1B visa issue? We think that's a missed opportunity right now, and it's far too restrictive. We have great people who are returning to their native countries because of restrictions here, and who

Continued on page 24

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"We knew that the long-term success of the company would only be sustained if we had a great pipeline of innovation.

Continued from page 22

could have gone on to be U.S.-based technologists and researchers and contributors. Just at the time when we need to work harder to keep people in this country, we have less access than we've ever had before.

What is your response to unemployed IT workers who resent the H-1B program? You have to look at the jobs that have been created by people who have come into this country. If you look at the pipeline of people graduating from our universities, the majority of these folks in doctoral programs are foreign-based. It matters where jobs get created. These are the kinds of people that can actually create jobs, that aren't responsible for losing them.

How do we reverse the decline of the percentage of women in IT? Focus is hugely important. For example, I just spoke to 200 [Xerox summer] interns, and two out of five are women. But we need a bigger pipeline, in general. So one of the things Xerox focuses on is raising the interest in areas like math and science in secondary schools. We take our engineers out to the classroom and have "invention days." We invest in robotics competitions. Focusing on getting the best talent suggests you ought to be inclusive, and that means not just women, but [also] minorities.

***Computerworld*'s annual IT salary survey shows that the gap in pay between men and women is hovering in the 10% to 12% range. To what do you attribute that gap, and how do we close it?** Women sometimes don't have the tenure that their male counterparts have. I think you fix it by paying for results.

You're No. 2 on Fortune's 2007 Most Powerful Women list. What does that feel like? My identity is Xerox, and any feedback I get should be regarding my success at Xerox, not so much my stack ranking. I understand that with so few women in leadership positions, bringing attention to it is a good thing. But I think my identity has to be linked with Xerox and my performance for my constituencies there.

Is there anything you brought to the position simply by virtue of being female that enabled you to be more effective than your male predecessors had been? No. I like to think there are a lot of things I brought to the job that have equipped me to be successful at Xerox. But I don't attribute them to gender. If you suggest that you have inherent advantages, then you leave the door open for saying you have inherent disadvantages, and I think that's a slippery slope.

You've said that effective communication was the single most important component of your turnaround strategy. What was No. 2? Our investments in research and development. While we were making really tough decisions everywhere in the company, we knew that the long-term success of the company would only be sustained if we had a great pipeline of innovation.

What was the single toughest decision you've had to make? There were a lot of tough decisions. One of the most memorable [was] shutting down our consumer business. It's a business that I ran, I helped author. A business that could have had promise over time, but there wasn't time. Great people, a lot of promise. Always tough to do, but this one was kind of personal.

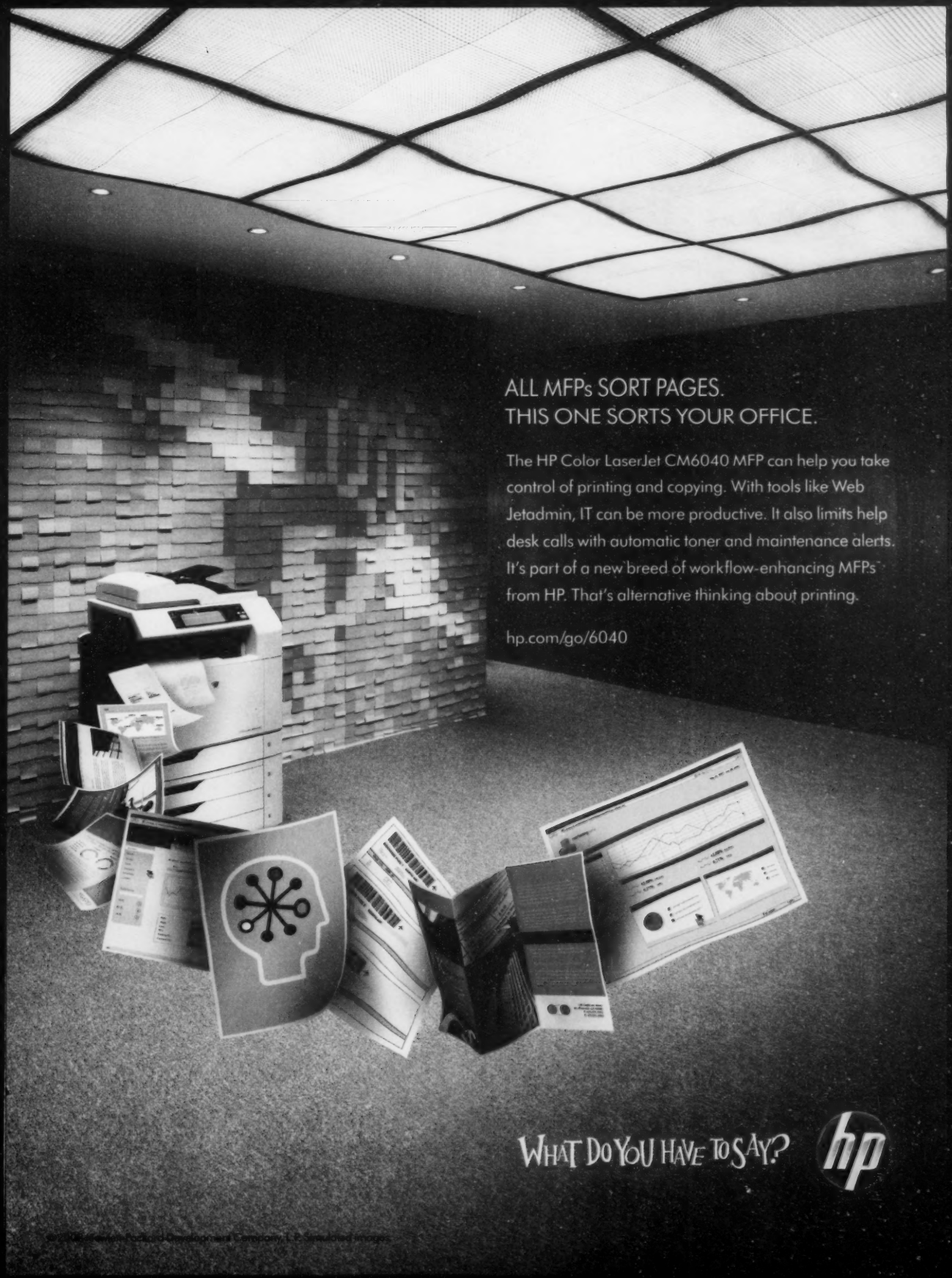
Can you identify a single best decision? I don't think so. I think that we turned the company around on a whole set of fundamental good business practices that we sustained for a long period. No magic formulas — just hard work and great people who stay focused and can accomplish great things.

How about a single worst decision? There were plenty of less-than-perfect decisions. For us, the worst decision was no decision. It's the things you don't deal with. It's much easier to fix mistakes than to fix inaction.

How much are you investing in R&D, and where do you expect that investment to take you? We're investing as a company just under $1 billion annually. And we have a partner in Asia-Pacific, Fuji Xerox, who invests $600 million. Our two biggest pools of investment are transitioning the world to color and services. About 70% of our total R&D is in those two areas.

How high on your priority list is helping companies with power management and being more green? Very high. I was in Dublin two weeks ago. We brought together 200 very, very senior people, and the topic was sustainability. We have a very long history in being green — literally decades. We invented things like remanufacturing and reuse. I think it's a huge opportunity. When you look at environmental impact and productivity, and — quite frankly — profit improvement, there's a very synergistic set of capabilities.

— *Interview by* **Don Tennant**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WHAT DO YOU HAVE TO SAY?
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You have practitioners asking the what-if questions, which has changed the way we police.

Can Web 2.0 save BI?

Here's how organizations are connecting the technologies to make better business decisions.

By Julia King

CHIEF JON GREINER recently expanded his staff of crime analysts from one to 11 without hiring a single new officer at the Ogden Police Department in Utah.

Instead, Greiner equipped his existing force of eight lieutenants and two assistant chiefs with new, easy-to-use, Web-based business intelligence tools that enable the police veterans to combine and manipulate data from arrest records, court documents, probation logs, jurisdictional maps and other sources to identify patterns and pinpoint hot spots so they can stop crimes before they happen.

"My police officers — who are 30 years younger — are gamers, and I thought that if I could put something user-friendly in their hands, they could do great things as crime analysts," explains Greiner. Today, the officers are using the new BI tools to perform geographic profiling of crimes and analysis of police data "in seconds," he says. Before, it could take days for the department's single crime analyst to fulfill a report request. An added bonus is that experienced police officers with extensive street experience are now able to apply their firsthand knowledge to crime analysis.

"You have practitioners asking the what-if questions, which has changed the way we police," Greiner says.

Welcome to Business Intelligence 2.0, a world in which one of BI's original big promises is finally being met, and a broader class of everyday business users — as opposed to statisticians or data analysts — are tapping into innovative technologies and Web-based BI capabilities. Police officers, physicians, accountants and salespeople are mashing up and analyzing structured and unstructured data from far-flung sources in the ways that make the most contextual sense to them.

"All of these new technologies are about making it easier to build and consume analytical applications," says Gartner Inc. analyst Kurt Schlegel. Today, he notes, companies frequently cite a lack of both end-user and developer skills as a major barrier when deploying traditional BI applications. Indeed, anecdotal evidence suggests that no more than 20% of users in most organizations use reporting, ad hoc query and online analytical processing tools on a regular basis.

Instead, most companies rely on already overburdened IT departments or in-house teams of BI experts to fulfill users' requests for reports, analyses and forecasts, a process that can take weeks or longer. Then, when decision-makers finally receive a report, they often discount or distrust it because the data is no longer relevant or timely.

However, that's beginning to radically change, thanks to highly intuitive, easier-to-use Web-based user interfaces and better data management and access schemes, such as service-oriented data architectures, which enable users to mash up data in increasingly standardized formats from a variety of sources.

"We're seeing mashups with GIS mapping technology as well as on-demand BI solutions that let users combine and display their own data with data from external sources," says IDC analyst Dan Vesset. "The goal is to get IT out of development [of user interfaces and reports] and get them more involved in data quality and data integrations. That's their highest value-add." (See story at right.)

> **"[Mashups] solve the old-school problem of data isolation.**
>
> MIKE AXELROD, ENTERPRISE ARCHITECT, EXCELLUS BLUECROSS BLUESHIELD

"Another very big change is an awareness of BI's potential at the business management layer in companies," Vesset notes. "Business is seeing real value in analytics. Many organizations are starting information management groups and BI competency centers that sit on the business side."

A NEW WAY OF THINKING

One example is the Massachusetts Housing Finance Agency. The BI team there has incorporated geographical mapping capabilities, including location intelligence features from Pitney Bowes Inc.'s MapInfo software, into its Cognos BI dashboard as a way to make information accessible in geographical form to users across the entire agency. Before, only 12 superusers had access to geographical tools. Now, all 300 of the agency's workers can access and manipulate BI data in geographical form, says Carl Richardson, BI project manager.

"We anticipate that more people will do analysis," says Richardson. "It will allow the average user to think geographically when it comes to data. They could create both thematic and point maps on data, which is important to them in their individual reporting groups."

One example would be to combine data on housing units, loans and public transportation so that it could then be analyzed and displayed in a map format to show how many of the agency's housing units are located close to public transportation.

"Being able to work with that data in graphic form as opposed to putting that data in a database would allow us to react a lot quicker," Richardson says.

For now, mapping tools are probably the most popular kind of BI mashups, also known as "bashups," but experts say the possibilities are almost endless. Technologies such as integrated search and in-memory analytics will make it easier to index large amounts of structured data and build high-performance analytical applications against increasingly large data sets. They also promise to empower users to explore data and discover new insights in new ways.

At Excellus BlueCross BlueShield, a health insurer in Rochester, N.Y., enterprise architect Mike Axelrod is using JustSystems Inc.'s XFY software and experimenting with linking claims data and wellness program data so employers can analyze the cost effectiveness of different programs and benefits. Looking ahead, Axelrod says he foresees a scenario in which people who work out at a gym could have the exercise equipment they use upload data to a Web-based health log. Users could then combine that data with other information to analyze their overall health and progress toward their personal goals.

Mashups, Axelrod says, "solve the old-school problem of data isolation."

Excellus is also using JustSystems' mashup technology in its customer-service call centers to display data on a single screen, even though that data may reside in multiple systems — including green-screen and Web-based applications, Axelrod says. JustSystems' XFY technology can handle multiple pieces of XML data simultaneously on

Continued on page 30

BI 2.0 Means Change for IT

BI 2.0 isn't about giving up control, as many IT departments fear. But experts say that BI 2.0 most definitely changes what IT does.

"These kinds of technologies that put more capabilities in users' hands place IT in the enabling infrastructure business," says Bob Eve, a vice president at Composite Software Inc. "What IT needs to be doing is providing techniques and tools so end users can get to data and do what they need to do with it without programming.

"The people who use search and Excel spreadsheets every day are perfectly capable of analyzing data," he adds. "They just need to be able to find it and access it. If IT can make that easy for them and tie it together in a simple process, it is going to really open doors."

IDC analyst Dan Vesset puts it this way: "The goal is to get IT out of developing user interfaces and get them more involved in data quality and data integration."

Specifically, Vesset says IT should be focusing on creating better data governance and detailing a catalog of BI assets from which end users can pull data.

"The issue is not in the technology," he says. "Data and processes need to be well defined. The issues are around defining data sources and who has the right to look at data."

The last thing IT should do is try to fight emerging BI technologies by prohibiting them in an effort to enforce standards, warns Gartner analyst Kurt Schlegel.

"This policy didn't work with 'spreadmarts' [out-of-control spreadsheets], and it won't work with these emerging technologies," he says.

Instead, Schlegel says, IT should incorporate these emerging technologies into the standard BI architecture to prevent business units from adopting them to create "rogue" analytic applications.

In addition, Schlegel advises centralized BI teams that might be overwhelmed with BI project requests to exploit the new technologies as part of a self-service BI strategy to reduce costs and speed up delivery.

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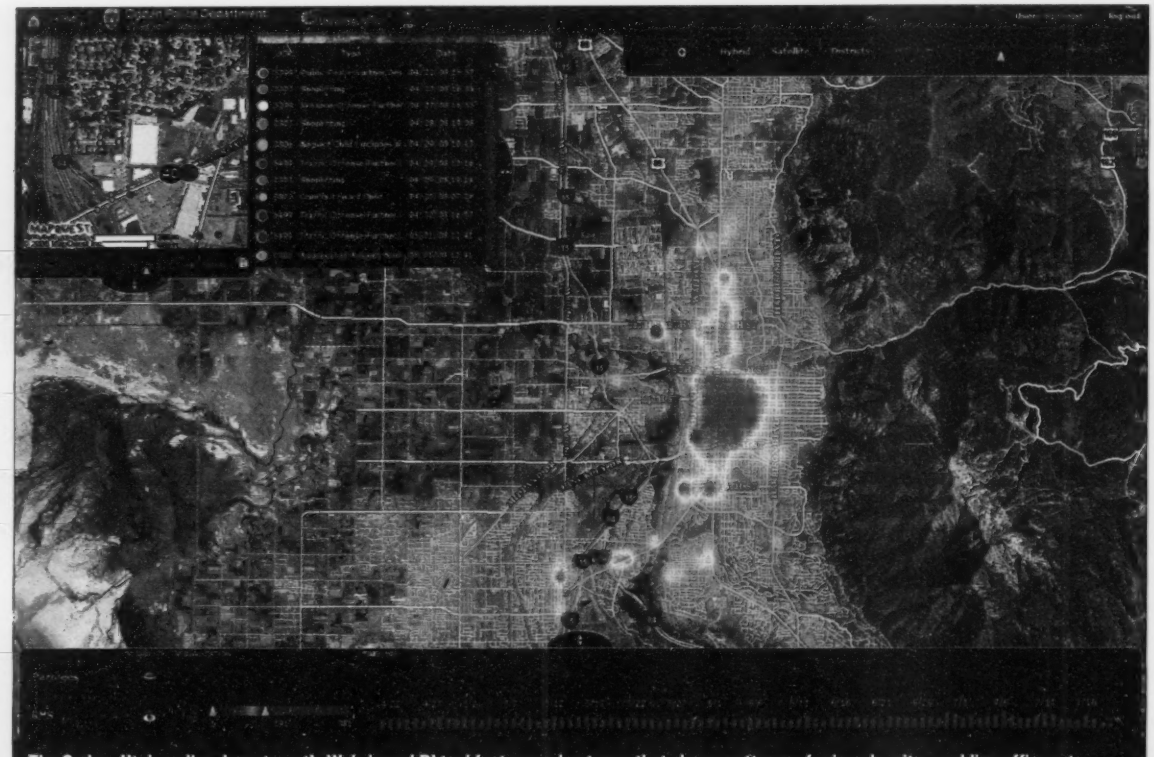

The Ogden, Utah, police department's Web-based BI tool features a heat map that shows patterns of crime density, enabling officers to identify hot spots so they can stop crimes before they happen. The system allows users to see data by date and choose the information set they want displayed. Users can also pan across the map and zoom in for more detailed analysis.

Continued from page 28

the screen, according to the company.

Using Excellus' existing service-oriented architecture interface, JustSystems software can retrieve information from a claims application and present that information to a customer-service rep through a browser. If the agent also needs data from a policy application, it would retrieve and display that as well, but the claims information would still be on the screen.

TRACKING AND ACCOUNTABILITY

Another user, New York-based Thomson Financial, is using Serena Software Inc.'s MashUp Composer to combine information from the company's Salesforce.com application and information about its various product offerings so salespeople can produce customized sales proposals for specific customers in about three minutes. Managers can then track the proposals, including the authorization and extension of product trials that salespeople offer customers, through the sales process.

"From an integration perspective, it's not overly complicated, but it added a ton of value," says John Hastings-Kimball, the former vice president of workflow solutions who recently left Thomson to work for Serena.

"Before, there was very little accountability to senior management, and a salesperson could easily extend product trials to customers," he says. "In some cases, we had customers that were on a trial for more than a year. Now, if a trial gets extended beyond a certain point in time, it sets off a trigger and the salesperson ends up in the VP's office to explain."

The upshot of the BI mashup is that Thomson cut the time from a product trial to a customer conversion from an average of 75 days to between 36 and 40 days.

While the business benefits of user-friendly BI and BI mashups can be great, they aren't without challenges.

As is the case with traditional BI and data integration as a whole, data quality is paramount, experts say.

"The most important aspect is data quality," says IDC's Vesset. "That includes data governance, master data management and all of the related infrastructure that needs to be in place to make sure you have the right data.

"A lot of this has nothing to do with technology. It's about agreeing on common data definitions and agreeing on exactly what each performance indicator means so you can manage on analytics rather than having lots of one-off products and [BI] projects."

In larger enterprises, IT itself can be a big roadblock, says Hastings-Kimball. "A lot of the [new and emerging] BI mashup vendors don't carry a big name. What I ran into at Thomson is that if it didn't carry the name Siebel, Salesforce.com or SAP, IT didn't want to hear about it," he says. "IT wants these big sprawling enterprise applications. If it's not that, it scares the IT folks." ■

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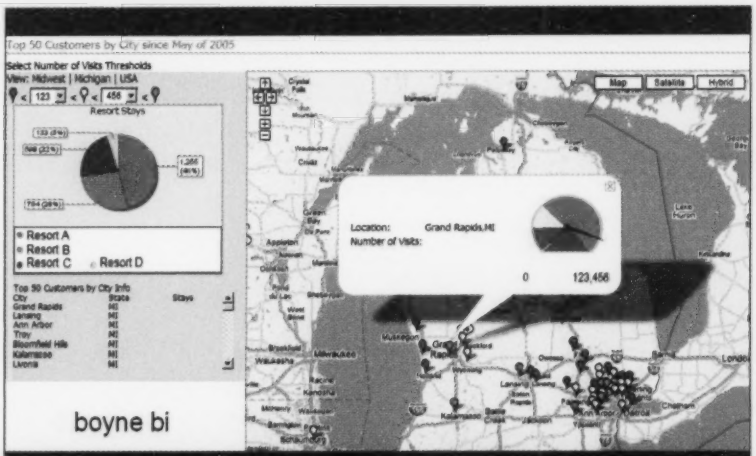
Better BI

These five organizations are using Web 2.0 technologies to dig deeper into their data, helping them calculate risk, map customer behavior and even fight disease.



Boyne marketers can click on pushpin icons to learn more about customer behavior, such as the number of visits made to a particular resort and how many nights visitors stayed.

Boyne Resorts

Marketing staffers can view customer behavior patterns at each of the company's ski and golf resorts.

By Thomas Hoffman

AT A GLANCE

A family-run, mountain and golf resort operator in Boyne Falls, Mich., Boyne Resorts owns properties such as Crooked Tree Golf Club in Michigan, Loon Mountain in New Hampshire and Big Sky Resort in Montana.

- **Project champion: Noah Meister, technical services corporate director**
- **Project cost and payback: $22,500 in first-year software licensing and support fees and $2,000 for training. Meister estimates that the project has already paid for itself.**
- **Size of the IT group: 16 IT staffers in the corporate office; 24 at the various resorts.**

>>> BI PROJECTS are frequently driven by the demands of executives who want to scour dashboards to analyze sales and other business trends. But at Boyne Resorts, the company's BI directive was marshaled by its CIO.

In 2007, Chris Downing, who was Boyne's IT chief at the time, asked Noah Meister, then an up-and-coming help desk support person, to take the lead on the company's BI effort. Downing wanted dashboards and various reports that executives in sales, marketing and other business units could sift through to get a better understanding of customer behavior.

It didn't matter that Meister had no BI training or experience at that point in his career. Meister says he was given the BI responsibilities after Downing saw promise in the way he attacked technical and business problems on the help desk.

Meister began by trying to find a better way for the company to generate reports and information for its top decision-makers. Previously, reports were generated strictly by using Business Objects' Crystal Reports, which had its limitations, he says.

"Every time somebody wanted something different from a report, we'd either have to rewrite a report or write an entirely new report," says Meister. Plus, business executives questioned why data in some of the reports didn't always mesh, he adds.

"We wanted to have the same way of reporting information across all of the resorts," says Meister. He evaluated a few open-source BI systems, including SpagoBI and JasperSoft, but he found that it took two to three weeks just to

Continued on page 34

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CRYSTAL REPORTS
SERVER

Continued from page 32

set up each tool and load the data.

In contrast, a test version of Orlando-based Pentaho Corp.'s BI platform came preloaded with "fake" data, which made it easier "to show management what was possible with the tools," says Meister.

One of the first Pentaho-based reports that Meister put together for Boyne's marketing department utilized a mash-up of Google Maps to plot the 50 North American cities that generated the most visitors to the company's resorts over a two-year span. Using the electronic report, which Meister created in February 2007, members of Boyne's marketing team could click on color-coded pushpin icons to learn more about customer behavior at each resort, such as the number of visits and how many nights they stayed. Meister has since assembled other reports that use Pentaho's Google Maps feature, including a visual representation of the types of season passes that ski and water park patrons purchase and where the passes are used.

One of the perks of licensing the Pentaho BI suite, says Meister, is that Boyne didn't have to purchase any additional database servers or software to support it. The application and database components of the Pentaho system run on one of Pentaho's Windows 2003 servers, says Meister.

IDC analyst Dan Vesset says companies that attempt to marry BI and Web 2.0 technologies in mashups need to beware of the "wow" factor. "Companies that start deploying any of these technologies because they're cool and the latest thing to do aren't going to be successful," he says.

That doesn't appear to be a problem at Boyne. For example, when Meister put together a report on ski ticket sales last year, he uncovered a few "anomalies" that skewed some of the sales figures. Boyne ended up modifying a few of the business processes around how lift tickets are sold, says Meister.

That effort, along with sales and marketing opportunities that reports from the Pentaho system have delivered, has helped prove the value of the BI investment, he says.

"We haven't done an ROI analysis," says Meister, "but in my opinion, the system has paid for itself." ■

Dana-Farber Cancer Institute

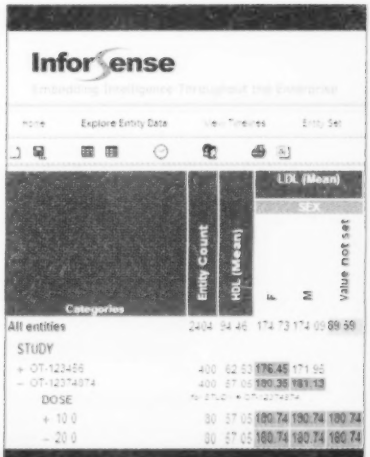
Researchers can view genetic information from multiple databases with a specially designed Web portal.

By Jennifer McAdams

AT A GLANCE

A cancer treatment and research facility in Boston, Dana-Farber is affiliated with Harvard Medical School and part of a Comprehensive Cancer Center (as designated by the National Cancer Institute).

- **Project champions: John Quackenbush and Joseph White**
- **Project cost and payback: Funded by a $1 million Oracle Challenge Grant, the system transforms the way researchers approach the problem of experimental design and enhances their ability to analyze experimental data.**
- **Size of the IT group: This project was implemented outside of Dana-Farber's IT infrastructure.**



The InforSense ClinicalSense portal connects researchers to an integrated view of patient data and biomarker test results. Researchers can see at a glance how patients are associated with test scores for cholesterol and white blood-cell counts.

>>> A CANCER that strikes white blood cells and eventually bone marrow, multiple myeloma can be difficult to treat. Now, the Dana-Farber Cancer Institute in Boston is harnessing the dual power of business intelligence and Web 2.0-based scientific search tools to gather complex, scattered data to better treat patients and work toward a cure for this formidable disease.

Dana-Farber is a treatment, research and teaching facility affiliated with Harvard Medical School. Its physicians and researchers regularly slog through complex calculations to find connections between data gleaned from tumor biopsies and other clinical samples and the vast genetic research housed within the organization or spread among three massive public-domain databases.

Dana-Farber officials are working to leverage grant money and other resources to blend data warehousing capabilities with Web-based data-collection tools, since vital connections between patient samples and analytical data will almost certainly prove the crux of both effective patient treatment and any potential breakthroughs tied to the disease, according to researchers.

The immediate goal is to clear tedious tactical challenges that get in the way of data sharing. "We face a real problem of data fragmentation or data balkanization. Often, the data we need is divided into lots of different subsets, since there are so many groups active in this research," says John Quackenbush, a professor of computational biology and bioinformatics at Dana-Farber's Department of Biostatistics.

Not only is data on multiple myeloma and other diseases often far-flung and fiercely guarded, it is also incredibly complex, says Joseph White, a senior research scientist at Dana-Farber. "A single gene may be represented by several different name sequences," he explains. "To gather all of the information on any one particular gene, a researcher must look at many sources and different expressions for the gene."

To make the hunt for precious genetic information easier, Dana-Farber officials have stitched together a system that wraps in Oracle's Healthcare

Continued on page 36

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Continued from page 34

Transaction Base, a service-oriented architecture that supports the medical industry's HL7 standard for the electronic exchange of clinical data. The project is partly funded through a $1 million grant from Oracle Corp.

To search for genetic data contained in the National Institutes of Health's repository and other databases, Dana-Farber researchers use a Web portal designed by InforSense Ltd. to generate the data and analyze workflow.

"What we have been doing is pulling summary data on samples, along with links to public domain data with the InforSense Web-based tools," Quackenbush says.

Tying publicly available data with information gathered in-house is no easy or inexpensive task, says Wayne Eckerson, director of research at The Data Warehousing Institute in Renton, Wash. "In cases such as these where the data is really valuable, organizations often want to integrate publicly available information into their data warehouse, but that is an expensive approach," he explains. The alternative, Eckerson adds, is to link to the public databases in real time via an application programming interface.

For security and other reasons, Dana-Farber has no interest in relying on Web-based tools for live access to remote data, though linking to outside databases requires substantial investments of both time and money. "We are pulling from a variety of data sources and storing information in a central warehouse. While it is great to be able to use Web 2.0 technologies to find links, this method still requires a lot of computation on our part," Quackenbush says.

"You can't engineer serendipity," says White. "You want to be able to ask questions such as 'How do I cure cancer?' and not be limited to questions that are too specific, such as 'Does eating beets have a correlation to curing cancer?' "

Given that each year, about 15,000 Americans are diagnosed with multiple myeloma, Dana-Farber researchers aren't willing to leave anything to chance. ■

McAdams *is a freelance writer in Vienna, Va. Contact her at JMTechWriter@aol.com.*

Erlanger (Ky.) Police Department

By mashing together search, BI and mapping, police officers can view real-time crime data along with past records.

By Heather Havenstein

AT A GLANCE

The Erlanger Police Department serves a community with a population of more than 15,000 that's located 80 miles north of Frankfurt, the state's capital.

■ Project champions: **Marc Fields, chief of police; Steve Castor, manager of the communications center**

■ Project cost and payback: **About $70,000. The department hopes that it can continue to handle the 5% to 10% annual uptick in calls without adding more personnel.**

■ Size of the IT group: **Six IT staffers developed the project.**

>>> BY COMBINING business intelligence and two foundations of Web 2.0 — search and mapping — a police department in Kentucky has built a brand-new window into crime. This Web-based BI portal allows patrol officers to enter data — or even pieces of data such as a few numbers from a license plate — into a simple search interface and retrieve information from their own databases and those of neighboring towns.

For the past several years, officials in Erlanger, Ky., had been planning a project to consolidate fire and police department communications for more than a dozen communities into Erlanger's communications center. However, the Erlanger Police Department didn't have a way to tap into the records management systems of 19 separate government agencies in order to search and analyze information about suspects, reported incidents, arrests and crimes. And even though Erlanger had been manually mapping crimes based on its own data for three years, the task was time-consuming, and the mapping wasn't available in real time. Moreover, other communities' departments hadn't done any crime mapping, says Marc Fields, Erlanger's chief of police.

One search product was able to search Erlanger's own records management system, but it couldn't search the systems operated by the other agencies. It also didn't provide BI analysis or meet the mapping requirements for the project.

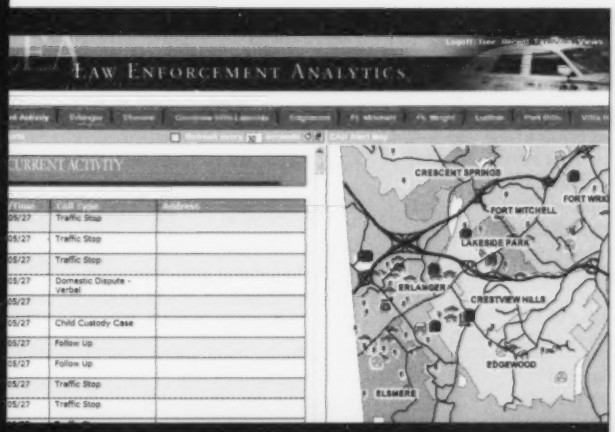
After failing to find a single product to automate the entire crime mapping and analysis process, Fields and his colleagues accepted an offer from the local planning department to use its tools: Environmental Systems Research Institute Inc. (ESRI) geomapping tools and WebFocus BI software from Information Builders Inc.

They completed the system by adding an open-source search appliance from Apache Lucene and an Information Builders tool called WebFocus Magnify, which compiles structured and unstructured data references into an index that can easily be searched by an appliance. Magnify then uses metadata about the structured data to categorize search results to give users a better context and relevancy for queries.

By mashing together search, BI and mapping, the new Web-based system combines real-time crime data from multiple agencies with crime records and incident reports stretching back five years to link information about suspects, incidents and arrests. In July, the Erlanger police department rolled out the system to 150 patrol officers, who can access it from displays in their cars powered by cellular signals.

"[Magnify] was really able to capture both of the goals — to more completely search our records management systems and at the same time . . . to create maps and information that officers could use to more efficiently go about their daily activities," says Steve Castor, manager of the communications center. "[Officers] can see over the last 24 hours where calls have occurred and compare crime stats against last year's data and this year's data."

Or an officer, for example, could type a partial license plate number into



At the beginning of every shift, patrol sergeants can review recent call activity and past criminal trends by neighborhood to decide where police officers are needed most.

the search interface and pull up any other information (such as dispatcher notes, detective interviews or incident reports) that included that same partial license plate number, Castor adds.

The BI portion of the system allows a patrol sergeant at the beginning of a shift to review an analysis of calls that came into the center within the past 24 hours in a text-based or visual format (with the maps). The sergeant can then decide where to send officers based on crime trends.

The project, which cost about $70,000, has had its challenges. Information Builders spent about six weeks with Erlanger learning what fields of information were the most important to search and where the data was located within those fields, Castor says.

In addition, the ESRI server was at first overwhelmed by the volume of data being sent for mapping. To fix that problem, he says, the system was changed so the map doesn't update for every call that comes through to dispatchers, but only when a user clicks to update a key performance indicator that includes that location.

Fields says the project's success will be judged in part by whether the department can continue to handle the 5% to 10% annual uptick in calls to the communications center while maintaining its recent 1% to 2% annual rate of increase in crimes solved — all without having to add more personnel.

Wayne Eckerson, director of research at The Data Warehousing Institute, says the most-common Internet mashups — like those that link Google Maps with another data source — are showing BI managers new possibilities.

"These demonstrations are opening the imaginations of folks as to the types of applications that are possible and getting users and management out of the rut of just expecting and asking for run-of-the-mill management reports," he says. "These mashups can potentially add information that makes it possible to make better operational decisions on the front lines — or anywhere else." ■

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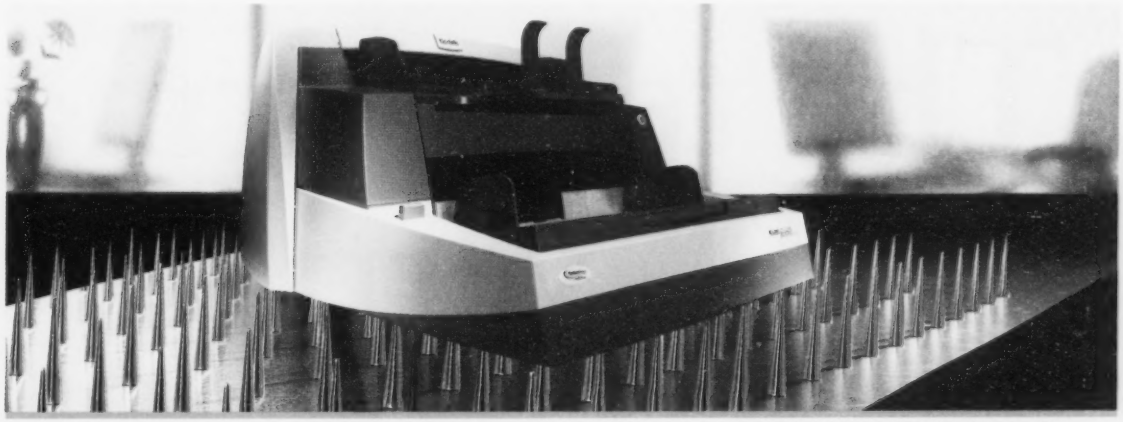

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Guy Carpenter & Co.

This reinsurance company pairs location intelligence with risk management data to prepare for bad weather.

By Jennifer McAdams

>>> RATHER UNPREDICTABLY, hail pounds U.S. crops and property to the tune of about $1 billion worth of damage each year, according to the National Weather Service. These icy agents of chaos account for just one of many catastrophic scenarios that Guy Carpenter & Co. must simulate and model, if the company is to protect its policyholders and stay one step ahead of disasters.

As a major reinsurance firm, New York-based Guy Carpenter sells policies to other insurance companies. Most of Guy Carpenter's clients are looking for added protection from those disasters that are either difficult to predict or tend to be the most damaging.

It's risky business, indeed, and the company's strength depends on its ability to calculate not only its own risks, but also those facing its many clients. To best serve the array of parties involved and to make the best projections, Guy Carpenter has blended business intelligence and Web 2.0 technologies and layered the resulting application with advanced mapping capabilities.

"As a global reinsurance broker, our transactions must include services such as catastrophe modeling, portfolio management and exposure management. All of these services generate a voluminous amount of data that has geographic context," says Shajy Mathai, managing director.

To meet these challenges, Guy Carpenter has put in place a system dubbed i-aXs, which is infused with location intelligence and online risk management capabilities, among others. The system relies on MicroStrategy Inc.'s MicroStrategy 8 BI software. Mathai recalls trying many combinations before settling on the i-aXs approach. "We investigated products until we found a combination of a database, BI, mapping, and [extract, transform and load] capabilities that had sufficient

AT A GLANCE

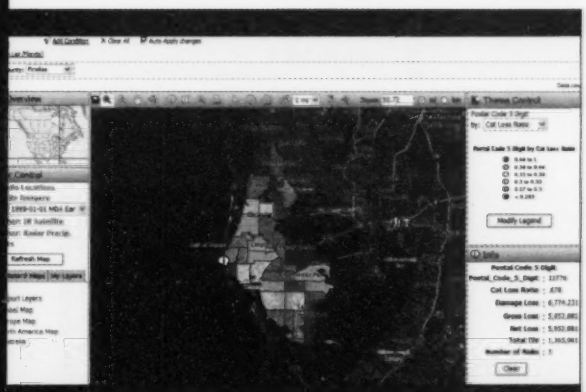
A risk and reinsurance specialist with 50 offices worldwide, this firm has business expertise in areas such as aviation; construction and engineering; life, accident and health; marine; political risk and trade credit; professional liability; property; terrorism; and workers' compensation.

■ Project champion: Ryan Ogaard, global leader

■ Project cost and payback: Because the company provides the i-aXs service as a value-add for clients, it doesn't license it or quantify its return on investment.

■ Size of the IT group: About 25 people

The terra firma for IT vertigo.



This thematically shaded map of a hypothetical insurance portfolio in Florida shows satellite imagery layered behind individual policy locations.

compatibility from which we could start building a product," he says.

Building a collaboration framework that can handle this heavy load and a range of users costs Guy Carpenter more than $5 million a year in system investments. However, these resources are well spent, Mathai says, because they enable the company to prepare itself and its clients for potentially devastating losses, particularly from bad weather. "Our clients' data is intersected with weather data, so we can identify which policies may have been affected by a hail event within minutes of the event," he says.

When deciding how to structure a system that makes use of BI and Web 2.0 tools, it's important to consider the data and try different methods of organizing access, says Wayne Eckerson, director of research at The Data Warehousing Institute in Renton, Wash. "This is kind of like the old 'Do we data-warehouse or do we federate?' argument that arises every few years, except this time, people are calling this choice Web 2.0," he says.

"The argument always comes down to this: If you use the data intensively, and there is a lot of it, or you need to apply complex transformations to integrate or clean it and need high performance, then warehouse it," Eckerson advises. "If you only need data around the edges of your application and there isn't much of it, and what's there is of good quality and is easy to link to and integrate, then federate."

In fact, Guy Carpenter gives its customers independent access to i-aXs via a home page set up for each of them. From this page, the customers can use the company's DataMinerix, a query and reporting system customized to specific end users. This module contains the mapping component and is layered with other capabilities, such as a policy-ranking tool that allows insurance agencies to identify the riskiest policies in their portfolios.

"Since we have different consumers of this voluminous data — including clients, brokers, rating agencies, investors and markets — we needed to develop a platform on which Web-based collaboration is straightforward and easy," Mathai says. ■

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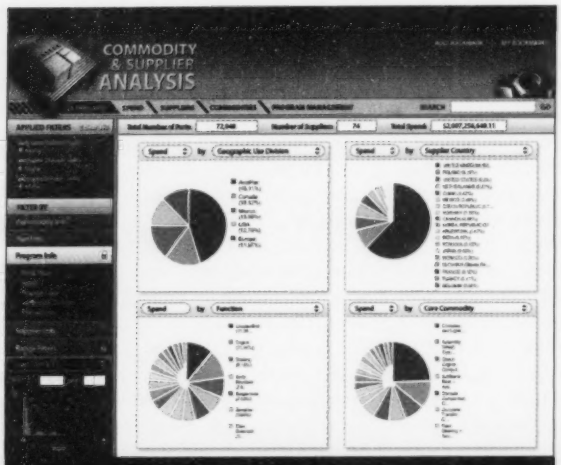


Harris Corp. uses a search and discovery platform from Endeca that's similar to the one shown here. Queries return summaries of how parts, suppliers and cost data interrelate.

Harris Corp.

A BI-Web 2.0 mashup allows engineers to search for parts information in a Google-like format.

By Thomas Hoffman

>>> BY THE TIME Leon Shivamber was hired in 2004 by Harris Corp. as vice president of supply chain and operations, the company had already shifted out of its semiconductor and printing businesses and was focused squarely on building communications systems for governmental and commercial customers. But the company still had a very divisional structure for its four businesses.

"We felt there was a need to bring our [business] divisions and our suppliers closer and provide a new platform to help people make better decisions," says Shivamber.

Key to the company's strategy was finding an effective way to collate data from the four disparate manufacturing resource planning (MRP) systems used by each of its divisions. When Harris' engineering teams assemble a bid for building a communications system for a prospective customer, they typically tap its MRP systems to find supply chain and technical information, such as the cost, availability or quality record of a particular component or the voltage rating for a capacitor, says Bob Kriner, an electrical design engineer.

In October 2004, Harris launched a three-and-a-half-year project to help its engineers, procurement specialists and other employees access and use this information more effectively. The lattice of systems involved in the effort includes Expo, a homegrown portal that connects the four systems and helps hundreds of its engineers and procurement specialists track materials and purchasing data across its suppliers, says Janice Lindsay, vice president for strategic sourcing.

Vital to the success of the project was building in a search platform that would enable employees to effectively locate information about component costs, life-cycle status and other specifications from its 65 million-plus parts inventory. Harris builds fewer than 1 million of those parts, with the remainder distributed by thousands of suppliers, says Shivamber.

Harris selected a search and discovery offering from Endeca Technologies Inc. At the heart of the system is a "massive" data warehouse fed by a variety of databases throughout the company, says Shivamber. The tool, he says, features Web 2.0-type search capabilities that allow engineers and others to search for parts information "easily — in an organized, Google-like format."

Mashing search capabilities into BI environments is a trend that has gained traction over the past few years, but isn't yet widespread, says Dan Vesset, an analyst at IDC. Mashups like the one in use at Harris "are a key component to making BI more pervasive, more visual," he says.

A few factors complicated Harris' initial efforts. When the project first started, a set of European regulations known as the Restriction of Hazardous Substances Directive, or RoHS, was still being fleshed out, according to Lindsay.

The regulations, which went into effect in 2006 and were updated last February, restrict or ban the use of certain chemicals and hazardous materials in electrical and electronic components. Other countries, such as China, impose a different set of thresholds, so the then-emerging European regulations made compliance "more complicated" for Harris, says Jan Jakobsze, a supply chain engineer.

In addition, the project team had to work with Endeca to meet Harris' own highly specified search requirements. Whereas some of Endeca's other clients might be used to searching against contextual data, Harris' engineers needed to search against more granular information "with precision" across more than 200 attributes for each component in its supply chain, says Tom Smura, the company's IT and supply chain manager.

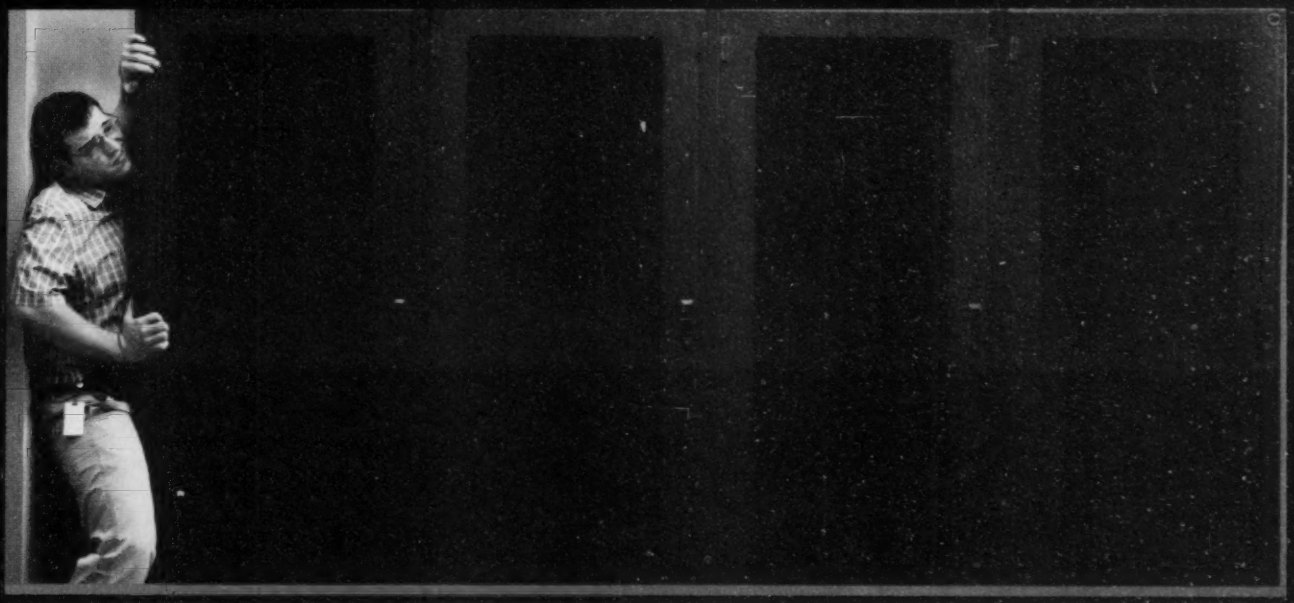
Harris' project team has been able to work through those issues and make its vast supply chain considerably more collaborative — and cost-effective — through its BI-Web 2.0 mashup. In fact, Shivamber says that the project has already paid for itself through the cost savings achieved by each of the business divisions and system chargebacks that have been accrued to them. ■

AT A GLANCE

This communications equipment maker in Melbourne, Fla., serves government and commercial markets in more than 150 countries. It had fiscal 2007 revenue of $4.2 billion.

■ Project champions: Leon Shivamber, vice president of supply chain and operations; and Janice Lindsay, vice president of strategic sourcing

■ Project cost and payback: A "low eight-figure investment" has already paid for itself across Harris' four business divisions through cost savings as well as improvements in supplier performance.



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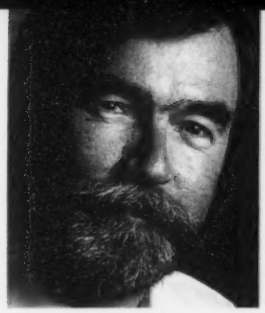
Mark Hall

Get Smashed, Not Mashed



I HATE TO BE the teetotaler at the mashup party, but someone has to take a sober look at the security implications of this emerging approach to business intelligence.

Mashups let you take data from an outside source and combine it with your own data to yield new information or insight.

Think about that for a minute. Data from somewhere else running on your network? Even if the person who initiates the mashup believes the data comes from a trusted source, do you know if the originating systems meet your security standards? Are those systems at current patch levels? If your business works in a regulated environment, will such a mashup put you out of compliance?

Do you have people on staff who are up to date on mashup security issues? Here's one to consider: For mashups to work, you have to suspend the security feature in browsers called *same-origin policy*. Same-origin was designed to stop one Web site from dropping malicious code onto another.

Oh, and then there's JavaScript. Does the mashup your company is creating include JavaScript from outside your company?

Think about that one. Your data. Someone else's script processing it. Is it proprietary data of special value to your enterprise? Do you know exactly what the script does with your data?

You should also ask yourself whether you would treat the data in a traditional BI app as cavalierly as some people use data in a mashup. As Chris Rafter, vice president of consulting services at Logicalis Inc., a technology services company with a BI practice, explained to me, "Mashups violate some of the unwritten rules of business intelligence."

■ The bald fact is that mashups open another door for malware.

For example, he says, BI apps are generally built around a data warehouse, which is highly secured and certainly unreachable by outsiders. He also notes that good governance for BI precludes generating reports laden with unaudited external data.

This isn't to say you shouldn't explore mashup technology behind your firewall and with your own data sources, or with data from established and vetted partners whose scripts you have scrutinized and tested. Mashups can be a quick way for business analysts to get insight from the knowledge locked in different silos inside your organization, where most of the illuminating information about and for your business resides.

But be wary of business units that want to contrast internal data with outsiders — say, a boutique market research house that can stream information to your network. The data may be golden, but it could turn into fool's gold if that firm's data-streaming application doesn't conform to WS-Security standards and its program gets compromised.

The bald fact is that mashups open another door for malware.

Earlier this year, IBM contributed code called Smash (a play on the term "secure mashups") to the OpenAjax Alliance, an open-source consortium that promotes IT's use of AJAX, the technical foundation of mashups. Smash permits two sources to supply content for a mashup but keeps the source material separate, opening a secure communications channel between the sources so the mashup can occur. If you're not using Smash or tools like it to secure your mashups, you're taking a gamble with your company's reputation and its information.

But, hey, don't let me spoil the party. ■

Mark Hall *is a former* Computerworld *editor at large. Contact him at mark.everett.hall@comcast.net.*

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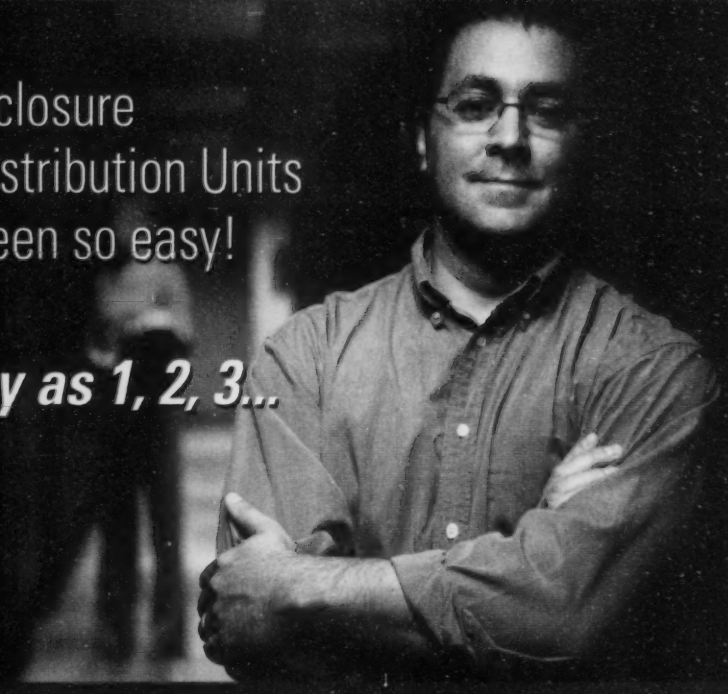

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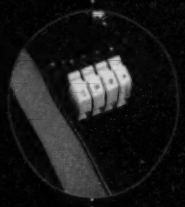

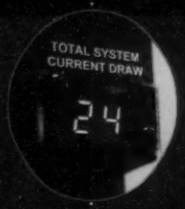

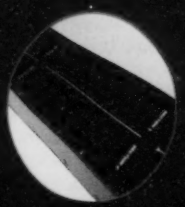

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Career Watch

Q&A

Do You Know Your Type?

Personality can determine which job you prefer and how you communicate.

Does your personality type have relevance for your career? To answer that, we turned to Kip Parent, CEO of Keirsey.com Inc., which markets the Keirsey Temperament Sorter, and Edward Kim, managing director of Keirsey's professional services division at Synergy Leaders LLC.

Kip Parent, CEO, Keirsey.com

Edward Kim, managing director, Synergy Leaders LLC

Is there a typical personality type that's well suited to IT?

KP: IT has become a complex industry, encompassing a number of different jobs. We have found that there are indeed some common personality types that gravitate toward certain roles within IT.

For example, the type that we most often find in the software developer role is what Keirsey calls the Rational-Architects (INTP, see chart). These types' communication and viewpoint of the world are abstract. They are attracted to this role because they are able to continuously learn new skills and try new techniques in building complex solutions. Usually, though, this type has little interest in the details of implementation. They also prefer to work autonomously and without interruption. Quite often, a type similar to the Rational-Architect – the Rational-Field Marshal (ENTJ) or the Rational-Mastermind (INTJ) – will become the manager of the team, which creates a bridge between the developers and the more concrete outside world.

EK: A drastically different personality type is found in the QA function. The more careful, methodical, step-by-step, linear thinkers are best suited for QA, and most often we find the Guardian-Supervisor (ESTJ) and the Guardian-Inspector (ISTJ) in this role. These types don't miss a thing! They often take leading roles in QA, implementing comprehensive test suites and making sure all code is tested before release. These types usually become the managers of this area because they are extremely thorough, concrete, and seek closure on projects.

In tech support, the personality types we find are those who like to solve problems quickly. The Artisan-Performers (ESFP) and the Artisan-Promoters (ESTP) often excel in this role because they are the best troubleshooters and work well with people. These types have tactical intelligence, meaning they are instinctively adaptive and focus on immediate outcomes.

Have there been any changes in the types attracted to IT?

KP: Among more recent college graduates, we have found that these same types dominate the IT field. The technical demands of the profession seem to filter out people pretty early. The one area where we have seen a lot of growth in diversity of personality types has been with HTML developers. This seems to be a more freewheeling area, usually requiring design skills, so we tend to see a lot more of the Artisan and Idealist temperaments here.

Is there a conflict between the stereotypical IT personality and the traits common to leaders, such as CIOs?

KP: A typical conflict between the CIO (often a Guardian-Supervisor or Guardian-Inspector) and the software development staff is over schedules and timelines. The CIO is pulled by the needs of the company, which are usually heavily time-constrained. The developers are driven by the elegance and "correctness" of their solution. To them, schedules seem arbitrary and irrelevant. This conflict can be compounded by the fact that Guardians are "concrete" in their communication and outlook (with both feet on the ground), while Rationals are "abstract" (with their brains wrapped up in complexity).

How does knowing one's own personality type influence career choices and trajectories?

EK: It can be one of the most important factors in considering a career. It not only helps people figure out their likes and dislikes; it also provides data on their most natural talents and informs how they are different or similar to others in the industry. Understanding personality types can provide the critical insight that makes all the difference for effectiveness, both at the individual and organizational levels.

– JAMIE ECKLE

Temperament 101

Keirsey Temperament Theory recognizes 16 distinct personality types that are defined by where a person falls in four separate pairs of preferences. Each paired personality factor is represented by a letter so that the 16 personality types are often referred to in a shorthand way. For example, ESTP or INFJ – that is, Extraversion-Sensation-Thinking-Perceiving or Introversion-Intuition-Feeling-Judging. Clinical psychologist David Keirsey provides detailed descriptions and names for each of these 16 personality types in his *Please Understand Me* books. Through his research, Keirsey found that these 16 personality types can be grouped into four basic temperament groups: Artisans, Guardians, Rationals and Idealists. Both individuals and entire teams can take the Keirsey Temperament Sorter and learn about these personality types online at *www.keirsey.com*.

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Promoter (ESTP)	Supervisor (ESTJ)	Field Marshal (ENTJ)	Teacher (ENFJ)
Crafter (ISTP)	Inspector (ISTJ)	Mastermind (INTJ)	Counselor (INFJ)
Performer (ESFP)	Provider (ESFJ)	Inventor (ENTP)	Champion (ENFP)
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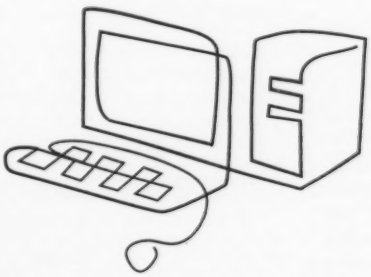

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TRUE TALES OF IT LIFE AS TOLD TO SHARKY

The Color Purple

Reseller has just installed a mainframe for this client, and the senior systems tech gathers the client's technical staffers to make sure they understand the importance of proper shutdown procedures. "He said, 'You must never treat it like a PC and do this,' and pushed the mainframe power button in," says a pilot fish on the scene. "The senior tech went on to explain that when he released his finger, the mainframe would shut down and that if he did it now, there would be all sorts of database corruption. As his punishment, he was left to hold the power button in while everyone else called all the remote locations to have them log all the users off the system for 'maintenance training.' About 45 minutes later, all the users were off the system, and the power button was released. As the system shut down, we could only marvel at the purple color of the senior tech's finger."

Insignificant

This user is working late at a medical clinic when her printer jams. "Instead of engaging technical support, user decides she can fix it herself," says the IT director pilot fish. "After working on the jam for an hour and a half, she thought she was doing great when she saw a few screws that she could remove to take some parts off and remove the paper jam. Unfortunately, upon reassembling the pieces, she forgot where two screws and a few parts went. But it seemed to her that it should work without the 'insignificant items.' Surprisingly, when the user turned the printer back on, it still wouldn't work. The next day, a repairman was called, and the clinic incurred a repair expense to the now-damaged printer. Oh, and the user was kind enough to tell her boss that 'the missing parts are in a bowl on your desk.' "

Oh, That!

User calls the help desk to complain that her screenshots are not showing up in the documents she's creating, reports a pilot fish watching from the sidelines. "IT support tech asked if she was using screenshot software or the standard Ctrl-plus-Print-Screen key combination," fish says. "User informed tech that she was using Ctrl-plus-Print-Screen option. Tech walked her through a few steps, which didn't work, according to the user. User went on to comment that the consultant she had in the day before got it to work. Why couldn't the IT department? Ignoring the attempted put-down, the support tech asked the user whether she was trying to paste the screenshot into Word, Excel or e-mail. To which the user replied, 'Paste?' followed by a brief pause, then: 'Oh, OK – never mind!' "

■ *Paste your true tale of IT life into an e-mail to me at sharky@computerworld.com. You'll snag a snazzy Shark shirt if I use it.*

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- Mike Twohig, Clean Harbors Environmental Services
- Patrick Wise, Landstar
- Mark Wood, Highmark Inc.

Judging Criteria

Judges evaluate and rank the finalists in each category according to their substantiated green IT solution attributes and achievements against a set of criteria such as:

- Strategic importance to the business.
- Positive impact on other business/organization units.
- Substantive customer impact (service, retention, acquisition).
- Provides a strategic advantage to the business/organization while anticipating and accommodating the deployment of future green IT initiatives.
- Financial return and measurable payback (returns on investment, assets, resources) through created/protected revenue opportunities or cost savings.
- Addresses challenges of data, information and application security, etc.

Congratulations to our Finalists!

Computerworld's Green IT Symposium proudly presents the "Best Practices in Green IT" Awards Program. Honorees will be recognized at the gala evening on Thursday, September 18.

This program honors IT user "best practice" case studies selected from a field of qualified finalists.

Finalists in each of the following categories are:

Green IT in the Data Center

- **Avnet, Inc.**, Phoenix, Arizona
- **BT Group plc**, London, United Kingdom
- **eNation Corporation**, Calgary, Alberta
- **IBM**, Somers, New York
- **Unisys Corporation**, Eagan, Minnesota

IT Leadership in Embracing Change with Green IT: Corporate Responsibility

- **Applied Materials**, Santa Clara, California
- **Enterprise Rent-A-Car**, St. Louis, Missouri
- **HSBC**, Salinas, California
- **Procter & Gamble**, Cincinnati, Ohio
- **Southern Company**, Atlanta, Georgia

Reducing IT Complexity Increases Green IT

- **Adelphi University**, Garden City, New York
- **Dell, Inc.**, Round Rock, Texas
- **Infosys Technologies Limited**, Bangalore, Karnataka
- **Sprint Nextel**, Overland Park, Kansas
- **University of California Irvine**, Irvine, California

ROI in Green Computing

- **gm2 Logistics Limited**, Erith, United Kingdom
- **Indiana Office of Technology**, Indianapolis, Indiana
- **IT-Systemhaus der Bundesagentur für Arbeit**, Nürnberg, Germany
- **Miami-Dade County Public Schools**, Miami, Florida
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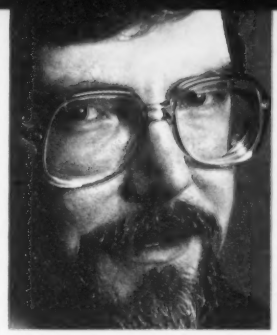
■ FRANKLY SPEAKING

Frank Hayes



Counterintuitive

ON THIS LABOR DAY 2008, what's the state of IT work? Paradoxical. Here, look: A survey released last week by ChangeWave Research says that 30% of U.S. IT shops are spending less than they planned this quarter — and 29% plan to keep cutting their IT budgets until next year. Only 13% plan to increase spending.

Then why is it so hard to find IT people to hire these days?

And it is, according to reporter Todd Weiss in this issue of *Computerworld* (see story, page 14). Overall IT hiring is at a standstill and IT salaries are flat, but companies looking for some specialized tech skills — wireless, ERP, virtualization, embedded, Web 2.0 — are having a tough time tracking down candidates at any price.

That's not the only apparent contradiction in IT work these days. Here's another: Even as budgets keep getting tighter, the focus of IT projects is no longer on cutting costs.

Why not? Probably because there's not a lot left that can be trimmed easily. IT has been helping our companies cut for years. The quick-hit automation has already been done, and there's no money in the budget right now for enterprise-scale projects. What's left? IT projects that will actually help grow the business.

That sounds like another contradiction. How do you grow a business when the economy is tanking? By stealing sales and customers from your competitors, thus boosting your market share as you cut off the other guy's oxygen when he can least afford it.

IT projects that help your salespeople do that will have a much bigger impact than yet another round of cost-cutting tweaks. Of course, those projects are harder to do. They require development teams who know the business and the competition as well as the technology, and who can listen closely to users and quickly crank out effective systems that produce a fast return on the project's investment.

■ IT people at big companies are having to act like they're at small, entrepreneurial start-ups. That's right, it's another contradiction.

In short, now that cutting costs is off the table, IT people at big companies are having to act as if they're at small, entrepreneurial start-ups. That's right, it's another contradiction.

Here's one more: Which IT people have the greatest job security in this counterintuitive world? The ones working without a net on the riskiest projects that, if they pan out, will show the biggest, fastest results.

Confused? Don't be. You know that, in every downturn, certain skill sets remain golden. This time around, there's also a golden mind-set.

It's not about big projects, long timelines, large teams and complex methodologies. It's not about technical purity or perfection, kitchen-sink wish lists or complicated political dances.

It's all about speed. And business focus. And technical sharpness. And intimate business knowledge. It's about getting quick results from small investments, delivering effective tools to employees who can use them to change the game.

Most of all, it's about grabbing hold of those paradoxes, understanding the realities behind them and then putting them to work.

That mind-set isn't simple. And it likely won't be comfortable for many people who have worked in big IT shops for their whole careers.

Which brings us to yet another paradox in the state of IT work right now: The people who have the strongest, clearest, most coherent sense of what an IT shop does are going to have the most trouble making sense of things.

And the IT people who have never quite fit in? Right now, they may just be exactly what your IT shop needs. ■

Frank Hayes *is Computerworld's senior news columnist. Contact him at frank_hayes@computerworld.com.*

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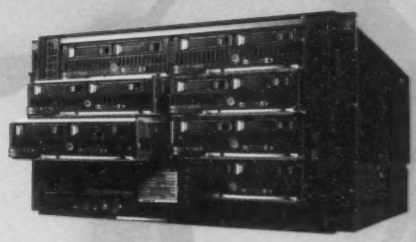

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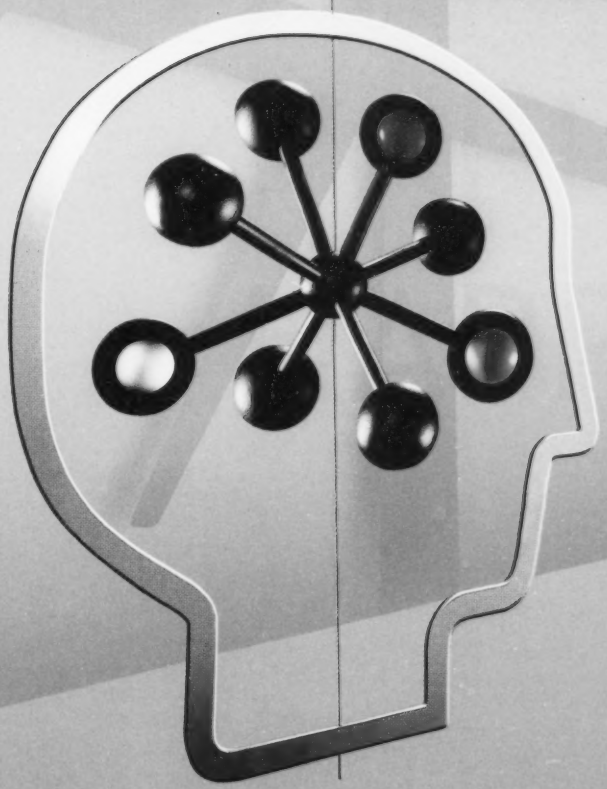

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